HIV/AIDS and Tuberculosis

In many settings, TB can be of the major opportunistic infections seen in individuals with HIV infection or AIDS. Immunosuppression caused by HIV infection allows TB to progress to active disease more rapidly. HIV infected individuals who are also infected with TB or who become infected with TB are more likely to develop active TB than those who are not HIV infected. TB is of particular concern as an opportunistic infection in HIV infected individuals because, unlike most other opportunistic infections, TB is a communicable disease, which can be spread to others.

Over the past few years, there has been large increase in the number of TB cases caused by TB, which is resistant to one or more antibiotics. This type of TB – known, as multi drug-resistant TB can be difficult or impossible to treat, is associated with particularly high mortality rates and seems to occur more frequently in HIV infected individuals. The emergence of multi drug resistant TB appears to be due primarily to poor compliance with treatment or use of inappropriate antibiotics.

What every client should know to reduce his or her risk of HIV infection

- Abstinence or mutual monogamy with an uninfected individual are safest;
- Consistent and correct use of condoms is the next best way to reduce the risk of sexual transmission of HIV.
- Sharing needles, syringes or other drug paraphernalia is very risky.
- Cleaning needles, syringes or other drug paraphernalia with bleach will reduce, but not eliminate, the risk of HIV transmission.

SEXUAL DYSFUNCTION'S

PSYCHOSEXUAL DISORDERS:

Psychosexual disorders are classified as

A. **Sexual dysfunction**

1- Sexual desires Disorders. (Hypo-sexual desire disorders)
- Sexual Aversion Disorder.
- Specific Sexual Fears.

2- Sexual Arousal Disorders.
- Female Sexual Arousal Disorder.
- Male Erectile Disorder.

3- Orgasmic Disorder
- Female Orgasmic Disorder.
- Male Orgasmic Disorder.
- Premature Ejaculation.

4- Sexual Pain Disorders
- Dyspareunia
- Vaginisumus
- Pain on Ejaculation

5- Sexual Dysfunction's due to general medical and surgical conditions.

B- Paraphilias. (Disorders Of Sexual Preference)

1- Abnormalities in the preference of Sexual object.
- Fetishism.
- Transvestitc Fetuishism.
- Paedophlia.
- Zoophilia. (Bestiality).
- Necrophilia.

2- Abnormalities in the preference of sexual Act.

- Exhibitionism.
- Sexual Sadism.
- Sexual masochism.
- Voyeurism.
- Frotterurism.
- Auto Eroticism.
- Coprophilia.
- Coprophagia.

C- Gender Identity Disorders

1- Transsexualism

2- Dual Role Transvestitism.

A- Sexual Dysfunction.

In men, sexual dysfunction's refer to repeated impairment of normal sexual interest and or performance. In Women, they refer often to a repeated unsatisfactory quality to the experience. Sexual intercourse can be completed but without enjoyment.

1. ***Lack or Loss of Sexual Desire. (Hyposexual desire disorder).***

Complaints of diminished sexual desire are much more common among women than among men. They often reflect general problems in the relationships between the partners.

Sexual desire is reduced during a depressive disorder. In most cases it returns to the previous level as the depressive disorder resolves, but in a few the impairment persists.

2. ***Sexual Aversion Disorder.***

It is persistent avoidance of almost all-genital sexual contact with a sexual partner. This may be caused by a depressive disorder.

3. *Specific Sexual Fears.*

A few women are made extremely anxious by specific aspects of the sexual act such as being touched on the genitalia, the sight and smell of the seminal fluid, or even kissing. Despite of these fears they may still enjoy other parts of sexual intercourse.

II SEXUAL AROUSAL DISORDERS

1- Female Sexual Arousal Disorder

Lack of sexual arousal in females appears as reduced vaginal lubrication. This reduction may be due to inadequate foreplay by the partner lack of sexual interest, or anxiety about intercourse.

2- Male Erectile Disorder

This is the inability to reach an erection or sustain it long for satisfactory coitus. It may be present from the first attempt at intercourse (primary) or develop after a period of normal functioning (secondary).

If erection occurs in waking, the Erectile failure is likely to be psychological rather than physiological in origin.

Erectile failure may be transient disorder arising at times of stress or when there is an environmental disturbance. It may reflect loss of interest in sexual partner.

III ORGASMIC DYSFUNCTIONS

1- Female orgasmic disorder

Orgasmic dysfunction in women may be related to men's experience as well as women's capacity to reach orgasm. About 25% of women have no orgasm during the first year of marriage.

2- Male orgasmic disorder

This term refers to serious delay in or absence of ejaculation.

It is usually associated with a general psychological inhibition about sexual relations, but it may be caused by drugs including antipsychotic monoamine oxidase inhibitors and by SSRI (Selective Serotonin re uptake inhibitors)

3- premature ejaculation

This term refers to habitual ejaculation before penetration or soon afterwards the woman has not gained pleasure. It is more common among younger than older men especially during the first sexual relationship.

SEXUAL PAIN DISORDER'S

1- Dyspareunia

This term refers to pain during intercourse. Such pain has many causes pain on partial penetration may result from impaired lubrication of vagina. From scars or other painful lesions or from the muscle spasm of the vaginismus. Pain on deep penetration strongly suggest pelvic pathology such as endometriosis ovarian cyst and tumors, or pelvic infections, though it can be caused by impaired lubrication associated with low sexual arousal.

2- Vaginismus

This is the spasm of vaginal muscle, which cause pain when intercourse is attempted and there is no physical lesion causing pain. This spasm is usua1ly part of the phobic response associated with fear about penetration and may be made worse by an inexperienced partner.

Severe vaginismus may prevent consummation of marriage

3- Pain on ejaculation

This problem is uncommon. The usual causes are urethritis or prostatitis but sometimes no cause is found.

AETIOILOGY OF SEXUAL DYSF'UNCTION

Common Factors

Sexual dysfunction arise from varying combinations like

- Poor general relationship with partner
- Low sexual drive
- Ignorance about sexual technique
- Anxiety about sexual performance
- Depressive disorder
- Anxiety disorder
- Physical illness
- Medication
- Alcohol or drug abuse.

Remember, physical or psychiatric illness often have direct effect on sexual performance but, clinician often fail to think of the sexual consequences of the diseases.

Some of these factors will now be considered

a. MEDICAL AND SURGICAL CONDITIONS COMMONIY ASSOCIAIED WITH SEXUAL DYSFUNCTIONS

MEDICAL

- **Endocrine:** Diabetes, hyperthyroidism, myxodema, Addison'sdiseas hyperprolactinaemia
- **Gynecological:** Vaginitis, endometriosis, and pelvic infections.
- **Cardiovascular:** Angina pectoris, previous myocardial infraction.
- **Respiratory:** Asthma, obstructive airway disease.
- **Arthritic:** Arthritis from any cause
- **Renal:** Renal failure with or without dialysis
- **Neurological:** Neuropathy Pelvic autonomic, spinal cord lesion stroke

SURGICAL

Mastectomy, Colostomy Ileostomy, Oophorectmy, Episiotomy, operation for prolapsed & Amputation

(b) DRUGS

Several medication and street drugs have side effects that impair sexual function these drugs include

1- Alcohol
2- Anti Hypertensive
3- Antidepressants
4- Anxiolytics
5- Antipsychotics
6- Anti Inflammatory drugs
7- Anti cholinergic
8- Diuretics
9- Andrenoeptor antagonists methyl dopa, guanethidine
10- Tricyclics, MAOI's, SSRI's
11- Hypnotic, Benzodia zepine Barbiturates
12- Thioridazine
13- Indomethacin
14- Probanthine
15- Bendrofluazide
16- Hormones

C- ETIOLOGY OF Particular CONDITIONS

1- Male erectile disorder:

Primary cases occur through a combination of low sexual drive and anxiety about sexual performance. Secondary cases may arise from diminishing sexual drive in the middle aged or elderly, loss of interest in the sexual partner, anxiety and depressive disorder and organic disease and its treatment. A few cases are due to abnormalities of the vascular supply to the penile erectile tissue.

2- Female orgasmic disorder:

This disorder arises from normal variations in sexual drive, poor sexual technique by the partner, lack of affection for the partner, tiredness, depressive disorder, and physical illness.

3- premature ejaculation:

This disorder is so common in young men that it can be regarded as a normal variation when it persists it is often because of fear of failure.

4- Vaginismus:

The causes of this disorder have already been described under dyspareunia This disorder generally has physical causes, but it may result from vaginismus or from failure of arousal with consequent lack of vaginal lubrication.

ASSESSMENT OF PATIENTS PRESENTING WITH SEXUAL DYSFUNCTION

General considerations

When ever possible the sexual partner should also be interviewed. The two should be seen separately and then together.

- The first step is to define clearly the nature of the problem as it appears to each partner.
- The origin and course of the dysfunction is recorded next. It is important to discover whether the problem has always been present or whether it started after a period of normal function.
- The general strength of sexual drive is assessed by asking about frequency of intercourse, and about sexual thoughts and feelings of sexuality
- Next, an assessment is made about knowledge of sexual technique and anxieties about sex.
- Find any disharmony in their social relationship. If couple lacks a loving relationship in their every day life, or either partner is shy and socially inhibited it is unlikely that they will achieve a fully satisfying sexual relationship.

- Enquire and assess for Psychiatric disorders especially depressive disorder. Physical illness and its treatment, psychotropic medication and abuse of alcohol or drugs.

Physical Examination

General Examination directed especially to evidence of diabetes mellitus, thyroid disorder and adrenal disorder.

- Hair distribution
- Gynaecomastia
- Blood pressure
- Peripheral pulses
- Ocular fundi
- Reflexes
- Peripheral sensations

Genital Examination

Penis congenital abnormalities, pulses, tenderness, plaques, infection, and urethral discharge.

Testicles size, symmetry, texture, sensations

Laboratory Tests

Should be carried out in appropriate cases e.g. blood sugar fasting testosterone sex hormone binding globulin, leuteinizing hormone and prolactin in men with erectile dysfunction

Physiological methods like Doppler imaging have been used to assess penile blood flow and pelvic reflexes in cases of erectile dysfunction.

TREATMENT OF SEXUAL DYSFUNCTION

- In most cases of sexual problems *advice and education* may be all that is needed.
- Specific sex therapy If this is appropriate should be directed to both partners.
- This therapy has four characteristic features.

1- Couples are treated together
2- They are helped to communicate better.
3- They receive education about the anatomy and physiology of sexual intercourse.
4- They are given a series of "graded tasks"
5- Some details of these features will now be considered.

Treatment of Couples helps to overcome social inhibitions

Communication: Better communication helps in understanding other person's wishes and feelings and to express their own desires more frankly

Education: Stresses the physiology of the sexual response. For example if problem is anorgasmia in the woman it is explained that longer time is need for a woman to reach sexual arousal, and the importance of foreplay in bringing about vaginal lubrication Graded Tasks are series of tasks for anorgasmia. These are not only directly beneficial but also help to uncover hidden fears or areas of ignorance.

METHOD FOR SPECIFIC PROBLEMS
MALE ERECTILE DYSFUNCTION (IMPOTENCE)

Oral medication:

Benefits have been reported from opiate antagonists and naltrexone and from the dopamine antagonist bromocrypin. Treatment with Sidenafil (Vigra) has shown promising results in men.

Intracavernosal Injections of papaverine (smooth muscle relaxant) or the phenoxybenzamine (alpha-receptor blacker) and prostaglandin produce erection and have been used to treat impotence. Small doses are given and increased gradually. Overdose can lead to prolonged erection, which may require aspiration of blood and the injection of an alpha-, I agonist such as phenlephrine.

Malaria

Pregnant women, particularly during the first pregnancy are more likely to get malaria than non-pregnant women are. Malaria is particularly dangerous in pregnancy and causes anemia, abortion, still births, premature labor and low birth weight babies.

What to do

1. In endemic area, give pregnant women antimalarial prophylaxis as follows
   Chloroquine phosphate (150 mg. Base tablet) 2 tablets every week for the
   Whole duration of pregnancy. In multi drug resistant area, *M*efloquine may
   Be used during the second and third trimesters.
2. Refer cases of malaria to the hospital
   Primaquine diphosphate and tetracycline are contraindicated in pregnancy.
   (A mother can and should breast-feed her baby even if she is
   Sleeping under a Mosquito net that can provide additional protection.)

Urinary track infection

What to Do

1. Advise the woman to drink lots of fluid
2. Treat fever if present with, Paracetamol 500 mg. S.O. S.
3. Give Ampicillin 500 mg orally four times a day
4. See her again in two days
5. If she get better, complete the treatment for 10 days.
6. If she dos not get better. refer her to a physician

Acute respiratory infection

What to do

1. Advise the woman to get enough rest. Increase fluid intake and avoid cough suppressants and antihistamines.
2. Treat fever if present with paracetamol 500 mg. SOS.
3. If she is better tell her to continue getting enough rest and increasing her fluid intake until she is fully well).
4. Give Ampincillin 500 mg. 4 times a day.
5. See her again after two days.
6. If she get better, complete treatment for 7 days.
7. If she dos not get better refer her to a physician.

Vacuum Devices:

The penis is placed in a surrounding cylinder in which pressure is reduced; an erection follows and is maintained by applying a restricting band to the base of the penis before the cylinder is removed.

Surgical Methods:

By microsurgery for vascular abnormalities improvement is observed in about *50%* of the selected cases. An alternate approach is to insert a penile prosthesis, which may be semi rigid or capable of inflating before intercourse.

PREMATURE EJACULATION

This disorder can be treated with the "Squeeze Technique". When the man indicates that he will soon have an orgasm, the woman grips the penis for a few seconds and then releases it suddenly. Ejaculation is delayed and intercourse is then continued.

Results of treatment:

The general methods described above are followed by a successful outcome in about a third of cases, and by worthwhile improvement in a further third. The outcome is least effective for problems associated with low sexual desire.

Outcome is better among patients who engage whole heatedly in treatment

B- PARAPHILIAS

- ABNORMALITIES IN PREFERENCE OF SEXUAL OBJECT

Fetishism:

In sexual fetishism, the preferred or only means of achieving sexual excitement are inanimate objects for e.g. woman's under clothes, high heeled shoes, rubber garments, stocking, furs, velvet and polished leather etc.

Transvestite Fetishism:

Transvestic fetishists experience sexual arousal when they cross dress. Unlike the Trans-sexual (described later) transvestite fetishists have no doubt that they are men and have a correct conviction about their gender.

Paedophilia:

Paedophilia is repeated sexual activity (or fantasy of such activity) with prepubertal children as a preferred or exclusive method of obtaining sexual excitement. It is almost exclusively a disorder of men. Zoophilia (Bestiality or Bestiosexuality) is the use of animal as a repeated and preferred or exclusive method of achieving sexual excitement. It is un common and rarely encountered.

Necrophilia In this extremely rare condition sexual arousal is obtained through intercourse with a dead body.

II. ABNORMALITIES IN PREFERENCE OF SEXUAL ACT

Exhibitionism

Exhibitionism is the repeated exposing of the genitals to unprepared strangers for the purpose of achieving sexual excitement but without any attempts at further sexual activity.

Sexual Sadism

Sexual sadism is achieving sexual arousal, habitually, and in preference to heterosexual intercourse, by inflicting pain on another person by bondage or by humiliation like tying, beating, whipping.

Sexual Masochism

Sexual masochism is achieving sexual excitement, as a preferred or exclusive practice, through the experience of suffering or pain. The suffering may take the form of being beaten, bound, chained or strangulated. Masochism, unlike most other sexual deviations, occurs in women as well as in men.

Voyeurism:

Voyeurism is observing the sexual activity of others repeatedly as a preferred means of sexual arousal seen among men.

Frotteurism:

Frotteurism is the sexual excitement by applying or rubbing the male genitalia against another person.

Coprophilia:

Thinking about or watching the act of defecation induces sexual arousal and this is the preferred sexual activity.

Coprophagia:

Arousal follows the eating of faeces.

C- GENDER IDENTITY DISORDERS

Trans sexualism:

Trans sexual people are convinced that they are the gender opposite to that indicated by' their external genitalia.

Dual role transvertism:

People who wear clothes of the opposite sex but are neither transvestite fetishists (seeking sexual excitement) nor trans sexual (wishing a change of gender and sexual role). Instead they enjoy cross-dressing in order to gain temporary membership of the opposite sex.

VIOLENCE AGAINST WOMEN (VAW)

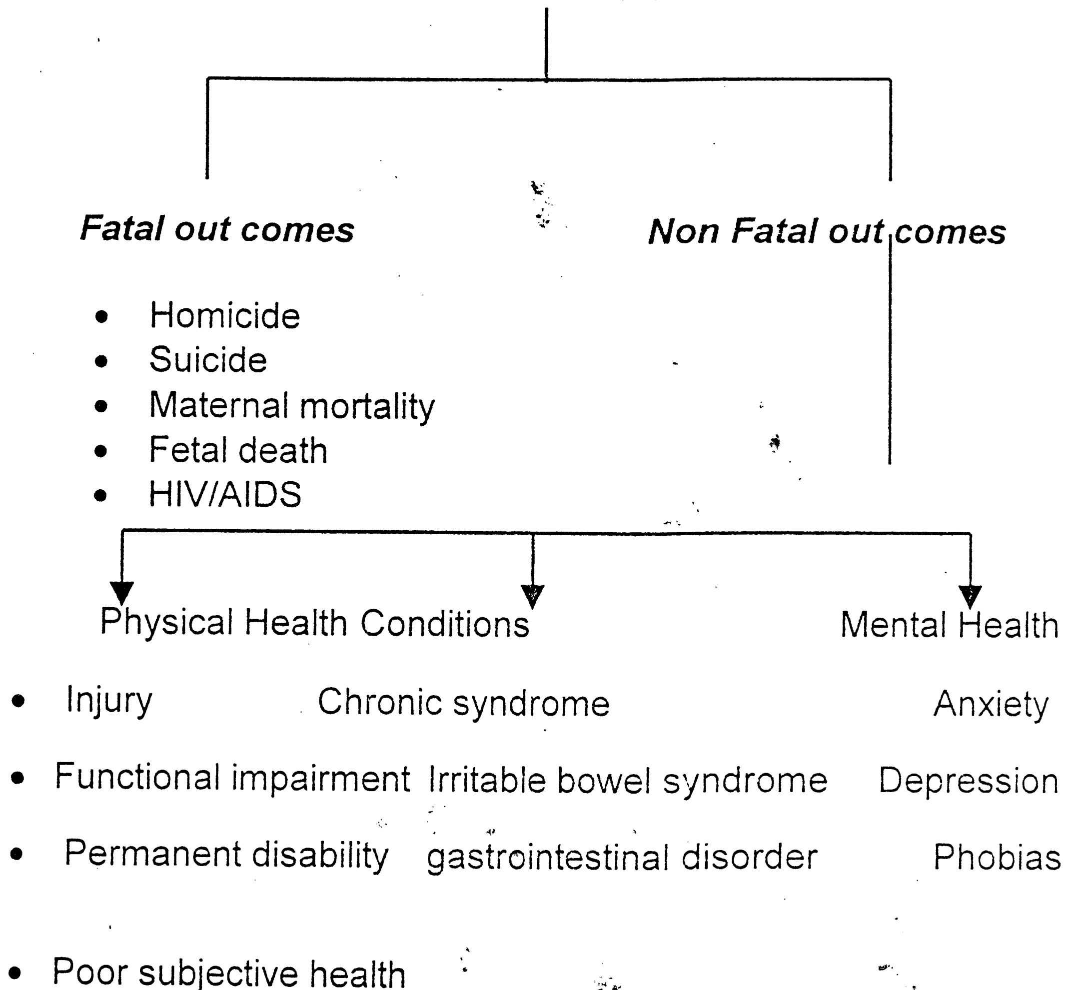
Introduction:

The term violence against women refers to many types of harmful behavior directed at women and girls, because of their sex.
According the United Nations, violence against women includes
Any act of gender based violence that results in, or is likely to result in, physical, sexual or psychological harm or suffering to women, including threats of such acts, coercion or arbitrary deprivation of liberty whether occurring in public or private life.

The UN Declaration of violence against women clarifies that the definition should encompass, but not be limited to, acts of physical, sexual and psychological violence in the family and the Community. These acts include spousal beating, sexual abuse of female children; dowry related violence, rape including marital rape and traditional practices harmful to women. They also include non-spousal violence, sexual harassment and intimidation at work and in school, trafficking in women, and violence perpetrated or cordoned by the state.

Health out comes of VAW

Violence against women is the most pervasive yet least recognized human rights abuse in the world It is also a public health problem, sapping women's energy, compromising their physical health and eroding their self-esteem.
The negative consequences of abuse extend beyond women's sexual and reproductive health to their overall health, the welfare of their children and even the economic and social fabric of the nation. VAW has been linked to many serious health problems, both immediate and long-term. These include injuries, sometimes leading to death or disability, a variety of chronic physical conditions, reproductive health problems, suicide, and unhealthy behavior such as drug abuse.



Negative Health Behaviors Reproductive Health

- Smoking, unwanted pregnancy, low self-esteem
- Drug abuse, STD/HIV, sexual dysfunction
- Physical inactivity, gynecologic disorder
- Not eating or overeating, unsafe abortion, post traumatic stress, pregnancy complications

INDICATORS OF DOMESTIC VIOLENCE OR SEXUAL ABUSE

The best way to uncover a history of abuse in female clients is to ask about it. Nonetheless, several types of physical injuries, health conditions and client behavior should raise health care provider's suspicion of domestic violence or sexual abuse. When these signs are present, providers should be sure to ask their clients about possible abuse, remembering to be empathetic and respectful of the client's privacy.

Indicators of Domestic violence

- Chronic vague complaints that have no obvious physical cause.
- Injuries that do not match the explanation of how they occurred
- Physical injury during pregnancy
- A history of attempted suicide or suicidal thought
- Delay between injury and seeking treatment
- Chronic pelvic pain
- Chronic irritable bowel syndrome
- Urinary tract infection

Indicators of sexual Violence

- Pregnancy of unmarried girls
- STDs in children or young girls
- Vaginal itching or bleeding
- Painful defecation or urination
- Vaginismus
- Anxiety, depression ,self destructive behavior
- Sleeping problems
- A history of chronic unexplained physical symptoms
- Having difficulty with or avoiding pelvic examination

Role of Health Care Providers :

Health care providers can do much to help their clients who are victims of gender based violence.

First, health care provides can learn how to ask women about violence in ways that their client find helpful. They can give women empathy and support. They can provide medical treatment, offer counseling, document injuries and refer their clients to support services.

Reproductive health care providers have a particular responsibility to help because

- Abuse has a major impact on women's reproductive health and sexual well being
- Providers can not do their jobs well unless they understand how violence and powerlessness affect women's reproductive health and decision-making ability.

- Reproductive health care providers are strategically placed to help identify victims of violence and refer them to appropriate support service.

- Providers can reassure women that violence is unacceptable and that no women deserves to be beaten, sexually abused or made to suffer emotionally.

ADOLESCENTS REPRODVCTIVE HEALTH

The Word Health Organization defines the word adolescence for ages 10 to 19 and the term young people to cover ages 10 – 24.
Adolescents are in a special period of life with unique issues and problems. Health care providers need to understand this very important period of life, in order to address their health needs in an appropriate manner.
The transition from childhood to adulthood is a universal process that varies greatly by individual by region, country and cultures. The beginning point of transition for both females and males is usually considered the onset of puberty, which occurs at various ages. There is no clearly defined ending point for the transition form childhood to adulthood.

Puberty is the physical process of sexual maturation that includes the development of sexual characteristics, such as breasts for girls and increased pubic hair for boys and girls. Generally during puberty males begin to produce sperms and have their first ejaculation. Females have their first menstruation called menarche, and begin ovulation. In addition to becoming physiologically mature during this transitional phase adolescents undergo psychological and cognitive changes. They become less dependent on parents and more involved with peers. They begin to form identities as individuals and develop further capacities for interpersonal relationships.

Health Risks

The risks related to sexual activity and child bearing are among the most serious health risks that young people face. They can jeopardize not only physical health but also long term emotional, economic and social well being. The reproductive health risks that young people face include

- Sexually transmitted infection including HIV\AIDS.
- Too early pregnancy and child bearing with elevated risks of injury, illness and death for both mother and infant.
- Unwanted pregnancy, often leading to unsafe abortion and its complications.
- Early child bearing limits the educational and employment opportunities, of
- girl and young women, making it more likely that they and their children will be poor.
- Early childbearing also contributes to rapid population growth, which in turn impedes economic and social development.

Gender and it is effected on Reproductive Health of Youth

The term gender refers to the different roles for males and females, determined by the society and cultures. Most cultures place a higher role of males than females. Gender roles and norms have a major impact on the reproductive health of young people gender norms can place girls at risk of sexual violence. Difference, in expectations also create separate standards for boys and girls in

terms of the social consequence, of pregnancy. It is usually the female, who has to face the often-serious social consequences of unwanted pregnancy.

What can be done to meet the reproductive health needs of young people?

Role of parents

- Make sure that they themselves are well informed about reproductive health matters
- Listen to their children without condemning their questions as improper
- Talk with their children about reproductive health and sexual responsibility and answer all their questions accurately.
- Encourage the health, safety and intellectual development of both their daughters and sons and encourage their self-esteem.

Health Care System

- Establish health care protocols that meet the needs of young people
- Involve community, while providing information and services to young people
- Provide information and services at times and in ways that are acceptable and convenient to young people.

Education System

- Should develop school curricula that give students age- appropriate information about reproductive health.
- Train teachers to educate children on reproductive health matters clearly and accurately.

Tuberculosis

Tuberculosis (TB) may get worse, during, pregnancy and breast-feeding. It is not usually pass from the mother to the baby during pregnancy. The baby gets infected after birth.

What to do

If a woman with tuberculosis gets pregnant refer her to a physician as it may be necessary to change her treatment Pregnant women may be given Short course Chemotherapy (SCC) by her physician. Watch her very carefully and refer her if she get worse.

- ***Make sure the baby is given BCG immunization right after birth.***
- ***Chest x-ray is contraindicated in the first three months of pregnancy.***
- ***Streptomycin sulfate is contraindicated in pregnancy.***

A mother can and should breast-feed her baby while on treatment.

Goiter

This is the enlargement of thyroid gland in the neck caused by insufficiency of iodine in the diet. Women with Goiter are likely to give birth to babies who are mentally retarded.

What to do.

Advise use of iodized salt for home cooking if available.
Advise the mother to eat foods rich in iodine such as salt-water fish Sea weed and shellfish if available
Advise the mother to avoid food causing the goiter to increase in size such as Cabbage & cauliflower, turnips and cassava.
In endemic areas all women of reproductive age should be given iodine supplement (take Iodized.salt in her diet). If you see many cases in the area, which is not known to be endemic for goiter, report this to health authorities.

Bronchial Asthma

What to do.

1- Advice the mother to

- Get enough rest.
- Increase her fluid intake
- Avoid cough suppressants, Sedation,and antihistamine,

2- Refer to the hospital if she manifests sever symptoms

- Being unable to drink.
- Shortness of breath and exhaustion.

Jaundice

Viral hepatitis is the most common cause of jaundice in pregnancy. This is dangerous for the mother and her baby. The mother may go into premature labor or she may die from liver failure.

What to do

If a woman looks yellow (which is most obvious in her eyes) she feels ill, has fever and loss of appetite, refer her to the hospital.

Diabetes Mellitus

Pregnancy can make the diabetes worse and it may have a bad effect on the pregnancy causing still birth, very large but weak babies and hypertension during pregnancy.

What to do

Refer the following women to a physician

- Those found to have sugar in their urine.
- Those known to be diabetic.
- Those who have signs and symptoms of diabetes (passing a lot of urine and drinking a lot of water.)
- Those who have given birth to a large, baby before,
- And those with previous unexplained stillbirth.

Some normal pregnant women may have sugar in their urine. The diagnosis of diabetes in a pregnant woman can only be made using special laboratory tests.

Heart disease

Heart disease gets worse during pregnancy.

What to do

1- All women with symptoms of heart disease such as frequent chest pain, palpitations getting tired very easily should be referred to a physician.

2- When a woman comes back to you, prevent the heart disease from getting worse by

- Giving iron/folate tablets to prevent anemia.
- Advising enough rest and avoiding performing heavy work.
- Treat infections quickly.

3- If the heart disease becomes worse with shortness of breath *and/or* pitting edema refer the patient to the hospital.

4- After delivery discuss with the woman and her family the dangers of getting pregnant again. Help them choose an appropriate contraceptive method, preferably a permanent one.

5- Women with compensated heart disease can and should breast feed their babies but their family should help them with the work around the house.

Abnormal vaginal discharge

Abnormal vaginal discharge is caused by different kinds of microorganisms Possible complications Including secondary infertility, infection of the babies' eyes during delivery which may further cause blindness to the baby and spread the infection into the pelvis of the mother.

What to do

If there is itching and white cheesy discharge

1. Advise the woman to
    - Wear cottons and loose underwear.
    - Change her underwear 2-3 times a day.
    - Avoid sweating.
    - Avoid wearing tight pants.
    - Wash her perineum frequently.
    - Use Nilstate vaginal tablets and cream locally.

2. See her in two days.

3. If she does not get better refer her to the hospital.

If discharge is yellowish to greenish and may be accompanied by pain during urination or during sexual intercourse.

1- Refer the woman and her, partner to a physician.

2- If you assist the delivery of her baby, remember to put 1-% Tetracycline eye ointment in to the baby's eye immediately after delivery.

High risk pregnancy

Some women more likely to have complications during pregnancy and delivery. Women who are fall in to the following groups should be treated with extra care during pregnancy, and should deliver in a health facility if possible.

- Adolescence (especially those under age 17)
- Older women (especially those over age 40)
- Women who have had many pregnancies (5 or more previous births)
- Shorter women (less than 5 feet or 145 centimeters)
- Women whose pregnancies are too close together, (less than two year apart)
- Women who had problems with an earlier pregnancy or delivery (prolonged or obstructed labour, repeated miscarriages, premature labor, severe bleeding or delivery by operation.)
- Women who have medical problems with their current pregnancy like high blood pressure, severe anemia, sickle cell disease, diabetes, heart disease, tuberculosis, kidney diseases.

Danger signs during pregnancy

Having pregnancy can cause some serious complications. In other words women may have had a condition or diseases, which is made worse by pregnancy. It is important to know the signs of serious complication of previous maternal health. If the women develop any of the following signs, should go to a hospital or health center immediately.

- High fever.
- Severe pain in abdomen.
- Bleeding from the vagina.
- Very bad headaches, blurred vision, spots before the eyes, or fits
- Fluid from the vagina that smells bad is greenish in color, or looks like foam contraction or rupture of membrane that occurs 3 week or more before the due date, (before 37 week of pregnancy)
- Jaundice (yellow discoloration of the eyes.
- Pale eyelids, tongue, gums, or palms always feeling tired and shortness of breathe (anemia).
- Swollen hands, ankles,and specially face(pre-eclampcia)
- Severe vomiting or vomiting which does not stop.
- Too much weight gain.
- Not enough weight.

LABOUR

Labor is the process by which a woman delivers her baby. Normally labor lasts about 5-18 hours, but this varies a lot. Labor requires great effort from the woman; it is often accompanied by pain, anxiety and physical exhaustion. Despite the hard work of labor, most women feel a deep sense of satisfaction in their accomplishment and love for their child.

Preparation for delivery

Plans for delivery should be made before labor begins. A decision should be made about where the baby should be delivered and who will help the mother during delivery. These decisions should be based on how healthy the woman is and whether there are any signs that she is likely to have a complicated delivery. Wherever the delivery takes place, essential supplies should be gathered and transportation should be arranged in case a complication develops.

Health care providers who attend deliveries should:

- Keep their hands clean;

- Use clean towels (or pieces of cloth).
- Use clean instruments (e.g. scissors or razor blade);
- Use only clean water (boiled if possible);
- Keep the woman and baby clean;
- Refer the woman to a hospital if there is any complication

Signs of onset of labor

- Painful rhythmic uterine contractions.
- Dilatation of cervix.
- Show.

These three signs of labour do not necessarily occur in any particular order, and some women may never see any show or break their water. Usually, however, when these signs occur labor is beginning and preparations should be made for delivery.

False labour is far more common in multiparous women and can be differentiated from true labour by the help of the following information.

UTERINE CONTRACTIONS	
True labour	False labour
• Are always present.	• Are not always present
• Is accompanied by abdominal tightening	• Is not always painful.
• Discomfort or pain rarely exceeds 60 seconds.	• It may last for three to four minutes.
• Recur with rhythmic regularity.	• Is erratic and irregular.
• Is often accompanied by backache.	• Is not accompanied by backache.

THE CERVIX	
True labour	False labour
• The cervix is shortened.	• The cervix is not shortened
• The Os is dilating progressively.	• The Os is not dilating
• The membranes feel tense during a contraction	• Membranes do not become tense.
• Show is usually present.	• There is no show.

The stages of Labour:

1. The first stage is that of dilatation of the cervix, and lasts from the onset of true labor up to complete dilatation of the cervix.

2. The second stage is that of expulsion of the fetus. It begins when the cervix is fully dilated and ends when the baby is born.

3. The third stage is that of separation and expulsion of the placenta and membranes and is also concerned with the control of bleeding. It lasts from the birth of the baby to the expulsion of the placenta and membranes.

	First Stage	Second Stage	Third Stage	Total
Primigravida	11 hrs.	3/4 hrs	1/4 hrs	12 hrs
Multipara	6-1/2 hrs	1/4 hrs	1/4 hrs	7 hrs

MANAGEMENT OF LABOUR:

1. First Stage of Labour

The first stage of labor is the period during which the cervix fully dilates for a few centimeters. At the end of the first stage, the opening is large enough to allow the baby's head to pass through. This stage is marked by regular, painful contractions of the uterus and can be the longest and most exhausting of the three stages. Contractions gradually occur more often and last longer, until they come every 2-3 minutes and last about 40-50 seconds. This can be a very anxious as well as difficult time for the woman in labour because it requires great physical effort.

When labor starts and the pain or discomfort is still mild, women usually appreciate doing something that distracts them, such as talking, walking around, eating a light meal and drinking fluids. As labour progresses, the discomfort may prevent them from doing these things. Breathing deeply and relaxing between contractions can help relieve the intensity of labour. A massage, shower, or bath can be helpful. Women should also be encouraged to pass urine frequently, as a full bladder can contribute to problems during labor. Most women feel comforted by having someone with them, such as their mother, sister, friend or husband. This can help them relax and may make the labour and delivery easier. A woman in labor should not be left alone.

If there are no complications and labour is progressing normally, women should be encouraged to be out of bed and walk around.

When the pain occur every 2 or 3 minutes and the woman feels a need to push, uncover her genitals and look between her legs. If the head appears at the vulva, as happens in the majority of deliveries, you will see some hair. To make the baby come out, tell the woman to push whenever she feels the pain and stop pushing when she does not have the pain. After she has pushed several times, the head stays at the opening when the pains stop. From that time onwards, every time the woman feels the pains and begins to push, put your left

hand on the baby's head to prevent it from coming out too quickly (If the baby comes out too quickly it may tear the mother's genitals). Hook your right hand against the woman's body where the baby's face is going to appear.

Once the baby's head is out, the shoulders and the rest of the body are likely to come out easily. When the baby is out, tie the cord at two places, with clean, dry strips of cloth, strings, fibre or ribbon and cut it (with an unused razor blade or freshly boiled pair of scissors) between the two knots.
Hold the baby in a tilting position. Head downward, with a clean soft cloth; wipe the mouth very gently to remove any blood or liquid it may have swallowed while coming out of its mother's body. Do not lift the baby by its feet. Wipe off very gently the liquid covering the baby's skin.
Sometimes the cord is wrapped around the baby's neck so tightly that it can not come out all the way. Try to slip the loop from around the baby's neck, if you cannot do this, tie and cut the cord, using boiled blunt-tipped scissors taking care not to injure the baby.
Explain and reassure the woman about what is happening and that all will be well. It is important for women to understand that with each set of contractions, the cervix is gradually opening and the baby is being pushed towards the outside. At this early stage, while the cervix is opening, the woman should be discouraged from pushing or "bearing down". Pushing too early can cause the cervix to become swollen or damaged.

Probably the most tiring period during the first stage is the period towards the end called transition". By this time, the contractions seem to come very quickly without much rest in between. Often women begin to feel a strong urge to bear down or push as the baby's head descends into the birth canal.

2. The Second Stage

This is the stage when the baby is actually delivered into the world. The cervix is fully opened (about 4 inches or 10 centimeters) and the baby can be pushed out. Women often feel a strong urge to push or bear down with each contraction, and relax in between. This encouragement and reassurance is especially' important if this is their first baby. Women generally feel better overall during the second stage as they know they are actively' pushing to bring their babies into the world.

3. Third stage of labour

Labour is almost over after the baby comes out, but not quite. The placenta has yet to be delivered. It carries some potential danger to the mother. Immediately after the birth of the baby, the contractions of the uterus cause the placenta to. Separate from the uterine walls. The next few contractions push the placenta in to the vagina. It is then gently delivered by a birth assistant while the woman bears down just as she did with the birth of the baby. This stage is always accompanied by some bleeding. The birth attendant should not pull out the umbilical cord or push on the abdomen to take the placenta comes out. This can cause severe bleeding and can be very dangerous. The baby may be put to the breast immediately while waiting for the placenta to come out. Not only does this get the baby off to a good start, but it will also cause contraction, which help

the placenta separate and control bleeding. Active management of the third stage is used to ensure that the placenta comes out in this procedure. As soon as the baby is delivered the midwife or doctor first makes sure that it is not a twin delivery. If the bleeding does not stop after the placenta is delivered or if the bleeding is excessive, immediate referral should be made.

Comfort and Support in Labor

Labor is a physically and emotionally demanding experience. A woman in labor must focus all of her attention and energy on completing the process of bringing new life into the world. For this reason, it is important that she is given support during labour and made to feel as comfortable as possible.

ANTENATAL CARE

Roles of health care provider:
It includes to:

1. Care of pregnant women.

2. To advise each pregnant woman on how to keep herself and her baby healthy.

3. To identify women who are at risk and refer them to a physician or hospital as appropriate.

4. To diagnose and treat minor problems for the period of the pregnancy.

5. To give emergency treatment for major problems during pregnancy and refer them urgently to a facility where essential and emergency obstetrical help is available.

All pregnant women should have a minimum of four antenatal visits.
All the following steps in antenatal care require at least 20 minutes for each visit. The schedule for antenatal visits is a follow.

First visit	End of the fourth month(16 weeks)
Second visit	Sixth or seven month(24-28 weeks)
Third visit	Eighth month(32 weeks)
Fourth visit	Ninth month(36 weeks)

Women with problems should be advised to have more frequent visits. Any pregnant woman can visit the health facility more than the scheduled if she desires. Every pregnant woman should be encouraged to visit the health facility any time she has problems, doubts, questions, or if she is not feeling well.

The essential information that you need to gather includes

- Age
- Parity
- Previous caesarian section, abortion, and miscarriages.
- Stillbirth.
- History of post-partum hemorrhage
- Family history
- Tetanus toxoid immunization
- Present health problems

POST NATAL CARE

Normal Puerperium

The Puerperium is the period following labour, characterized by the following three features

1. The reproductive organs return to their pregravid state.
2. Lactation is initiated.
3. Recuperation from the physical, hormonal and emotional experience of parturition takes place.

The Puerperium begins as soon as the placenta is expelled and lasts for six to eight weeks. The process by which the uterus and other organs return to their pregravid state is known as involution. The main changes occur in the uterine muscle and decidua, but the ligaments also return to the condition they were in prior to pregnancy. The stretched vagina, pelvic floor and perineum regain their tone, but a degree of laxity persists.

Involution of the Uterus

On the completion of labour, the uterus measures 15 x 2 x 7.5 cm and weighs 900 g. At the end of the Puerperium it has almost returned to its pregravid size of 7.5 x 5 x 2.5 cm and weight of 60 g. The marked reduction in size is most rapid during the first week, the uterus losing half of its bulk during that time. The muscle fibres, which during pregnancy' increased 10 times in length and 5 times in thickness are reduced to normal dimensions.

Reduction in the size of the uterus

At the completion of labour, the fundus is about 5 cm above the umbilicus or 12 cm above the symphysis pubis. Twenty-four hours later it comes to the level of the umbilicus. One week after labour the fundus is approximately 7.5 cm above the symphysis pubis. Twelve days after labour the fundus is not usually palpable. Involution is completed in 6 weeks and it may take 4 weeks or longer before menstruation recommences.

The condition of external Os at different times during Puerperium.

Time	Diameter of cervix
End of labour	Soft, flabby
End of I week	2 cm
End of 2 weeks	1 cm
End of 6 weeks	A slit

THE LOCHIA

Lochia are the term given to the discharge from the uterus during the Puerperium. It has an alkaline reaction in which organisms flourish more readily than in the acidic vaginal secretion. The amount of lochia varies in different women and is rather more in quantity than what is lost during the menstrual flow the odour is heavy and unpleasant, but not offensive. Lochia changes in nature and color with time.

Lochia rubra

For the first three days, the lochia consist mainly of blood. It also contains shreds of decidua and fragments of chorion, Amniotic fluid, lanugo, vernix caseosa and meconium may also be present.

Lochia Serosa

The discharge is paler and brownish in color, containing less blood and more serum as well as leukocytes and organisms.

Lochia Alba

The discharge is creamy greenish ill colored and contains leukocytes, organisms, cervical mucus and debris from the healing process in the uterus and vagina. Slight blood discoloration may be seen for as long as three weeks. Persistent red lochia (fresh blood) are a warning sign that products of conception have been retained in uterus and of the likelihood of severe puerperal hemorrhage occurring. It is important that the community health worker realizes the danger of retained products and persistent red lochia and reports it to the doctor.

The psychology of the postnatal woman

The midwife should have some appreciation of the sensitivity of the woman's nervous system and the emotional turmoil to which she is subjected during the adjustment to motherhood in the Puerperium. Her nervous, as well as her physical energy may have been depleted by the stress of labour and while in this weakened condition she is faced with care of the infant.

IMMEDIATE CARE

Although the Puerperium begins immediately after the placenta is born, the first hour is usually included under the management of labour. The woman is made comfortable, a light meal served and a sedative given to ensure rest and sleep. The uterus should be firm in consistency, the blood loss normal in amount, and the pulse below 90 should bleeding occur, or if the uterus is believed to contain blood clots, it should be massaged until it contracts, the clots expressed and an oxytoxic preparation such as syntometrine, 1 ml given intramuscularly. If the bleeding is not brought under control, medical aid must be summoned.

Temperature, Pulse and Blood Pressure

Temperature and pulse are the two excellent guides for the woman's condition and both should be normal throughout the Puerperium. Any rise in temperature during the first week should be attributed to puerperal sepsis until proved otherwise. The temperature is unstable during the Puerperium and tends to rise because of minor disorders such as engorgement of the breasts or due to excitement but such an elevation is transient and should not be above 37.7^{0}C.
The pulse rate should be slow, ranging between 60 and 80, if over 90, it should be referred. Excitement and fatigue may accelerate the pulse temporarily but when pulse and temperature are both increased, puerperal sepsis and other infection is the most likely cause.

Retention of Urine

Retention of urine is less common since early ambulating is advised, but occasionally occurs following a difficult delivery. The fetal head may have bruised an over distended bladder and the tissue at the base of the bladder is sometimes edematous. Bruising of the urethra and bladder neck may take place if the second stage has been prolonged and the subsequent edema of the vulva, or the suturing of the perineum, interfere with the act of micturition. The pain and discomfort in the vulva prevents relaxation of the urethra sphincter, which may go into spasm. To avoid urinary tract infection, retention of urine should be treated actively. The doctor should be consulted if there is a need to pass a catheter.

Rest and Sleep

It is necessary to ensure sleep for the first few nights. If kept awake by some discomfort such as after-pains, hemorrhoids, or engorged breasts; the FHW should treat the cause or refer her to the doctor.

Vulval Toilet

Swabbing is only carried out on patients confined to bed, i.e. Caesarian section and difficult instrumental delivery for hygiene and comfort. Details in technique vary. Groins, thighs and buttocks should be thoroughly washed with soap and water. Mask wearing is a precautionary measure. If masks are not worn the midwife should not speak while swabbing the vulva.
It is important that observation of the perennials suture line are carried out daily until healed, pads must be inspected daily.

Early Ambulation

Free movement of the legs is essential to avoid venous thrombosis. The women should be encouraged to walk. Six hours after normal delivery a woman may have a bath.

Palpating the Uterus

A health worker should recognize the normal decrease in size of the involution uterus. The decrease in size is approximately 1 cm daily and by the 11th or 12th day the fundus is no longer palpable. Any tenderness present should be reported. Palpating the fundus also draws attention to an over-distended bladder. With early ambulating this is less likely to occur but can very readily be overlooked unless there is a specified daily examination.

The bladder should be emptied prior to uterine palpation, because a full bladder may displace the uterus upward and a loaded rectum as well. If the fundal height remains stationary or is higher than on the previous day, refer to the hospital.

Abnormalities of the Lochia

Note and record	report to Doctor	Significance
The amount	Excessive Scanty (with Pyrexia)	Retained products. Puerperal sepsis (Septicemia)
The color	persistently red Brown And profuse (with bulky Uterus)	Danger of hemorrhage
The consistency	Pieces of membrane of Placenta	Retained products
The odor	Offensive Offensive (with pyrexia)	Retained products Puerperal sepsis (local Uterine infection)

The Bowels

The bowels tend to be sluggish during the Puerperium. When the diet contains sufficient roughage and fluid, the bowels need no artificial stimulation, a small-prepackaged enema, a glycerin, or bisacodyl (Dulcolax) suppository is usually given if the bowels do not move before the third morning after delivery and on every subsequent third day.

Diet

The nursing mother needs a liberal nourishing diet to build up her strength and to enable her to produce sufficient breast milk. Good wholesome food is essential, containing sufficient proteins (80 g) daily, minerals and vitamins as the production of an adequate supply of breast milk is believed to be influenced

by the intake of protein and vitamin B. Many women are anemic at this time so the health worker must_ensure that foods rich in iron are included in her diet. Additional fluid is required but excessive quantities of fluid will not increase the milk supply. Milk is high in proteins and calcium and as the woman is losing calcium from her body when she produces milk, 1 liter should be taken in diet every day. Fruits or vegetables should be served at every meal. The traditional idea that fruit and vegetables upset the baby is a misconcept.

Hemoglobin Estimation

Twenty-four hours after delivery the hemoglobin level is estimated. If 11.5 g/dl or less, ferrous sulphate tablets are given. If hemoglobin is less then 7.5gm/dl refer the woman to a hospital.

COMPLICATIONS ARISING DURING LABOUR

Most women go through labour and delivery with no complications. Sometimes, however, complications can arise. This can happen even if there were no warning signs during pregnancy. Women with the following signs should be taken to a hospital or well-equipped health center for proper care

- Strong labour (contractions) that lasts for 12 hours without the baby being delivered.
- The baby is not coming out with head first; for example; an arm or foot can be seen coming out of the birth canal.
- The placenta (afterbirth) does not come out of the vagina within 30 minutes of the birth of the baby.
- The woman has fits or loses consciousness (faints).
- The bag of water breaks but labour does not start within 12 Hours.
- Meconium a green or brown fluid, is seen after the bag of water breaks.

OBSTRUCTED LABOUR

This is a common and one of the most dangerous complications of labour. Labour is obstructed if the baby cannot be delivered normally through the birth canal without serious damage or injury to the mother or baby. Obstructed labour can sometimes be predicted during antenatal care, long before labour starts. Usually, however, the problem is only recognized if the woman has been in labour for many hours without making any progress. Women are likely to have obstructed, labor.

- Who is less than 5 feet tall (150 centimeters)? These women may

have difficulties during childbirth because their pelvises may be smaller than normal. That is why height is measured during antenatal visits.

- Girls in their early teens, even if they are taller than 5 feet. This is because; the pelvis grows more slowly than the rest of a girl's body, so the pelvis can be quite narrow in a girl under the age 16 even if she is tall.
- Women with certain abnormalities of the spine or lower limbs. These affect the size or shape of the pelvis and can therefore cause obstructed labour. Wom n with such abnormalities need careful attention during the antenatal period and special supervision during labour.
- Women with large size babies. The average baby weighs around 6-7 pounds (about 3 kg) at birth; babies much larger than this may be difficult to deliver normally. Babies of older women and of women suffering from diabetes tend to be heavier and bigger than average. A larger than average baby can sometimes be recommended to be delivered in a hospital.
- Women with bab s with an abnormal lie.

It is a life threatening condition for both the mother and baby. A woman with obstructed labor is in desperate need of medical attention and needs to be taken to a hospital immediately so she can receive trained assistance.

Why is obstructed labour dangerous?

If labor continues for too long (over 1-2 hours) both mother and baby may be distressed. First, the mother may become dehydrated due to perspiration and loss of a great deal of body fluid. Second, the mother may catch an infection during' the long hours in labour. The infection, can spread upwards into the uterus and affect the baby too. Third, if some thing is not done quickly enough to relieve the baby out, the uterus may tear or rupture. Severe bleeding may occur inside the abdomen. This will lead to shock in a mother already exhausted and dehydrated from prolonged labour. If a woman is in labour for more than 12 hours without being able to deliver the baby she should be taken to a hospital where she can be properly managed. Some times it is necessary to perform an operation to deliver the baby.

PROLONGED LABOUR

Labor is prolonged when it continues for many hours without making any real progress towards delivery of the baby. The most common cause of prolonged labour is obstructed labour. Labour can be prolonged for other reasons as well. Sometime the uterus is not contracting as should or the contractions even stop altogether. This is especially common in a woman having her first child when the cervix is not opening up enough to allow the baby to come out. Normal

labour can last anywhere from 5- 18 hours. It can be longer in a woman having her first baby. It can be difficult for someone who is not properly trained. Sometimes, when the bag of water has ruptured, the liquid that comes out is colored green or brown; this is a sign of fetal distress. If this happens, the mother should be taken to hospital immediately.

PRE-ECLAMPSIA and ECLAMPSIA

These conditions often occur in the late stages of pregnancy. If they are not properly controlled they can get worse during labour. Sometimes, they appear for the first time during or after labour. Eclampsia causes fits or convulsions and loss of consciousness or coma. A woman who starts having fits before, during, or after labour should be delivered by cesarean section.

HAEMORRHAGE (HEAVY BLEEDING) DURING LABOUR

Hemorrhage or heavy bleeding, during labour can be caused by obstructed labour or by problems with the placenta. The placenta may be lying low. Which can cause bleeding when begin to open? An accidental hemorrhage can occur if the placenta separates from the uterus too early. Whatever the cause, if blood loss is more than tow cups during labour it requires skilled care in a hospital, because loss of excessive blood endangers the mother and baby

NATURAL FAMILY PLANNING METHODS

FAMILY PLANNING

It means to plan a family by avoiding unwanted pregnancies and being able to control the number and spacing of the children.

Conception

When a fertilized ovum gets embedded in the endometrium and a pregnancy is started conception is said to have occurred.

Contraception

It means prevention of pregnancy without abstinence from coitus.

Contraceptive

Any compound or device used for contraception is a contraceptive.

Requirements of a good Contraceptive

- Convenience
- Efficacy
- Safety
- Reversibility
- Cost

Classification of Contraceptives

A **Natural methods**

Males — Withdrawal method

Females — Safe period; Lactational Amenorrhoea (LAM)

B **Barrier methods**

Males — Latex Condom

Female — Female condom

C **Clinical methods**

Females — IUCDs

Hormonal
- Oral pills
- Injections
- Implants

D **Surgical methods**

Males	Vasectomy
Females	Tube legations

- Minilaparotomy
- Laparoscopy

NATURAL METHODS

Breast-feeding (Lactational Amenorrhoea Method)

In developing nations including Pakistan, breast-feeding plays a major role in prolonging birth intervals and thereby reducing fertility. It delays the return of ovulation in the postpartum woman, particularly if she is fully breast-feeding. Fully breast-feeding means breast feeding on demand on both breasts, with any two feedings regularly no more than 6 hours apart, and not giving the baby food or liquids instead of breast milk. Breast feeding as a sole method of contraception is reliable only during the first 6 months of postpartum and before the return of menses. After 6 months, many women will begin to ovulate even if their menses have not returned. The family planning workers should make all efforts to protect, promote and support breast-feeding practices in the community.

Advantages

- It is an effective contraceptive method in fully breast feeding women, before return of menses during first six postpartum months
- It is economical
- It is convenient
- It provides essential nutrients to the baby
- It helps protect the baby from life threatening diarrhea and other infections
- It promotes bonding between mother and baby
- Mothers who breast feed tend to return to their normal weight sooner than those who do not
- Uterine tone returns rapidly in breast-feeding mothers

Disadvantages

Breast feeding is not very effective as a sole method of contraception once mother's menses return, after 6 months postpartum, or once the mother begins regularly substituting food or drink for breast milk feeds. If the mother is infected with HIV, there is a small chance she may pass the virus to her infant through breast milk.

Counseling for Breast feeding

Explain the benefits of breast-feeding as the source of nutrition for the baby and the sole natural method of contraception if she follows the instructions.

Ask the client if she is having any difficulty in breast-feeding, and advice as needed. Encourage her to continue breast feeding her baby for as long as possible. Explain that as soon as any of the following occur, she will need another method of contraception.

- Menses return
- Baby becomes 6 months old
- A baby taking food or liquid as substitutes for breast milk feeds.

After explaining instructions to the client, ask her to repeat them to you in her own words.

Contraception during Lactation

Explain to the client about the need for contraception during lactation as given under. When a woman's menstrual period returns or when she starts regularly giving her baby other foods, she is at risk of pregnancy if she is sexually active. Breast-feeding provides good protection against pregnancy for the woman who is exclusively breast-feeding, as long as her menses have not returned, and before six months postpartum.

Most nonlactating women resume menses within 4 to 6 weeks of delivery. By the second menstrual cycle, normal ovulation generally occurs and the client can again become pregnant. However, exclusive breast-feeding can delay the return of ovulation, and hence may prevent a pregnancy. However, this period of relative infertility is unpredictable, and a family planning method should be used to ensure that pregnancy does not occur.

Suitable Methods of Contraception during Lactation

The appropriate methods of contraception for lactating mothers are those that do not influence the quantity and quality of breast milk are not excreted in breast milk in amounts that make it unsafe for the infant are effective and safe for the mother are easily available, and convenient to use.

Counsel the client about the methods that she can use, and assist her in making a choice.

Provide the following information about contraceptives that can and can not be used during the lactation period.:

- Combined oral contraceptive pills are not suitable during the first 6 months of lactation
- The IUCD (Cu-T) can be started after six weeks postpartum
- Minipills (progestin) only can be started after six weeks postpartum (currently not available)
- Norplant implants can be used after six weeks postpartum
- Injectable contraceptives can be given after six weeks of child birth
- Conventional methods such as condoms and foam can safely be used 6 weeks after childbirth, when postpartum bleeding has stopped.
- Tubal legation can be performed if the client does not want any more children. It can be performed within 48 hours of delivery, or at any time six weeks after delivery as an interval procedure.

- Present pregnancy
- Fetal movement
- Problems with present pregnancy
- History of STDs /HIV/AIDS

STEPS IN ANTENATAL CARE

An antenatal care visit includes:

- Taking the woman's history
- Doing a physical examination
- Deciding if a women is at risk or has obstetrical problems
- Helping the women and her family plan the delivery
- Providing the necessary vitamin supplements, immunization , prophylaxis and health advice
- Recognizing and advising on the discomforts of pregnancy
- Up dating and keeping records

Take the women's history:
A detailed history is important for the first antenatal visit. Later visits will focus on the health status of the woman and her baby at the time of the visit.

History of post-partum hemorrhage:
A woman who has history of post partum hemorrhage should deliver in a hospital, because she is more likely to have another post partum hemorrhage during this pregnancy.

Family history:
Ask for a family history of hypertensive disease of pregnancy, congenital anomalies, diabetes and twins. A woman with a positive history may also have the same condition.

Tetanus toxiod immunization:
Ask if she has been given tetanus toxoid shots before and the date of immunization. If she is unsure, consider her not immunized.

Previous caesarian section:
If a woman has had caesarian section before refer her to physician or hospital. She may need another caesarian.

Three consecutive abortion or miscarriages
If a woman has had three consecutive abortions or miscarriages, refer her to a physician. She may have a condition that causes the miscarriages and need treatment.

Fertility Awareness Methods

This means knowing about the female and male reproductive processes and how to determine the fertile days of the cycle. These methods require the couple of abstain from intercourse during fertile days or use a backup method. The methods commonly used are as follows.

Safe Period.

Fertile period in the menstrual cycle is calculated by relying on the following facts

- Average life of the ovum is 24 hours
- Average life of the sperm is 72 hours
- Luteal phase 12-16 days (average 14 days)
- Length of the menstrual cycle 21-35 days

The time of the ovulation is estimated by subtracting 14 from the total duration of the cycle. It may be two days earlier or two days late. The fertile period is 3 days after and 5 days before the ovulation time.

Calendar (Rhythm) Method

It is a method for preventing pregnancy by identifying the fertile days of a woman cycle. This method is effective only in women with regular periods. The woman calculates the beginning of her fertile period based on the knowledge that

- Ovulation occurs 14 days before the onset of her next menses
- Sperms remain fertile from 48-72 hours, and
- The ovum is viable for 24 hours.

During the fertile days, abstinence should be practiced or a backup method used.

Basal Body Temperature (BBT)

A woman using this method must take her body temperature every morning for 3-5 minutes before getting out of bed and eating any food. She has to be taught how to read the thermometer and record the daily reading. She will notice an increase in temperature (0.2-0.5'C or 0.4-1'F) beginning soon after ovulation. The BBT remains elevated until the next menstrual period.

When the BBT method alone is used, the couple should abstain from day one of the cycle until three days after the temperature increases. Alternatively, another backup method can be used during this time.

Cervical Mucous Method

A woman using this method observes and records every day the changes in her cervical mucous typically, a woman may observe no mucous for 2-3 days after her menstrual bleeding ends. Then when cervical mucous appears, it is sticky and pasty, and is from yellow to white in colour. As ovulation approaches, the increases in quantity, becomes clear in colour and wetter so that it can be stretched between two fingers. After ovulation, the mucous again becomes sticky and pasty and decreases in quantity. In order to avoid pregnancy, the couple must abstain on all days when the woman notices the presence of mucous until the fourth day after the peak symptom day (the day of wettest mucous).

Note: Sometimes the BBT and the cervical method are combined; this is known as symptothermal method.

Coitus Interrupts or Withdrawal Method

Coitus Interrupts or Withdrawal is an ancient method of birth control. Through this method, fertilization is avoided by preventing contact between sperms and the ovum. The male partner interrupts intercourse and withdraws his penis from vagina before he ejaculates

Advantages

- It requires no devices
- It involves no chemicals
- There is no cost involved
- There are no systemic side effects

Disadvantages

- The failure rate is high
- A high level of self control is demanded
- It may lessen sexual pleasure
- It may cause some psychological problems

ORAL CONTRACEPTIVE PILLS

Since the early 1960s oral contraceptive pills have been available and used throughout the world. These contain synthetic female hormones.

The types of pills are

The combined oral pills, commonly known as the Pill contain estrogen and progesterone and are a very safe and effective method of contraception widely used. They are available in the form of 28-pills packets.
The progestin only pills (mini-pills) are usually prescribed in special cases, when estrogen pills are contraindicated e.g. lactating mothers, women over 35 years of age with an additional risk factor such as smoking or hypertension.

The post-coital pill is a high dose progestin only pill, which is taken after unprotected sexual intercourse.

COMBINED ORAL PILLS

These contain estrogen and progestin. The quantity of estrogen varies. Pills containing a low dose of 30 or 35 micrograms of estrogen are now available and recommended. The low and effective dose of estrogen has made combined pill a safe method to use.

Mode of action

The estrogen and progestin in combined oral pills act in the following ways

- Inhibits ovulation
- Thickens cervical mucous, which inhibits sperm transport
- Makes endometrium less suitable for implantation of fertilized ovum.

Advantages

Combined pills have the following advantages.

i) **Contraceptive effect**

- They are 99% effective if taken regularly.
- They are safe, it is easier to take pills than to deliver a baby.
- Their use is not connected with the sexual act.
- Their effect is easily reversed (fertility returns immediately after Discontinuation).
- These can be given to nulliparous women.
- These help regulate the menstrual cycle, if it is irregular.

ii) **Health benefits**

Oral contraceptive pills are also beneficial to health, which is an added advantage. Oral pill users are less likely to develop benign breast cysts, iron

deficiency anemia and endometrial and ovarian cancers than women not using the pills are. In addition, oral contraceptives may decrease the amount of monthly bleeding and cramping, an important benefit to women with heavy or painful menstrual periods.

Disadvantages

Combined pills have the following disadvantages

- These have to be taken every day without fail
- Lactating mothers cannot use the combined pills until 6 months after childbirth as they decrease the quantity of milk.
- Their use is sometimes associated, with side effects such as dizziness, headache, and weight gain, breast tenderness, nausea and sometimes vomiting during the first few months.
- Pills interact with other medicines; women taking regular medication for all chronic disease can only use them under medical supervision.
- Women on prolonged treatment regime with antibiotics, Rifampicin, Grisofulvin and anticonvulsant Phonation, Carbamzapine, barbiturates, Primadone should be discouraged from using the pills.
- Do not protect against STDs including AIDS.

After giving all information to the client about the mode of action, method of use, advantages and disadvantages of combination pills, ensure that she makes an informed choice before consenting to use pills.

SCREENING and SELECTION

Once the client has chosen combined pills as a contraceptive, find out if the pills are suitable for her, by taking a detailed history and conducting complete physical examination.

History

While taking the history, ask for specific information regarding Indications and contraindications

Indications

A suitable client for combined oral pills is one who

- Needs contraception for spacing a pregnancy.
- Is nulliparous and wants to delay a pregnancy.

Contraindications

Combined pills are contraindicated in a woman who

- Is pregnant or suspects that she is pregnant.
- Has cancer of any part of her body.
- Is breast-feeding a baby less than 6 months old.
- Has a history of any of the following

1. Clot formation (thrombosis) in any part of her body
2. Heart disease (ischaemic heart disease or complicated valvular disease).
3. Active liver disease.
4. Migraine.
5. Epilepsy (pills may interact with anti-epileptic drugs).
6. Abnormal uterine bleeding (before final diagnosis).
7. Stroke
8. Heavy smoking (more than 35 years old and using more than 20 cigarettes a day.

If any of the above conditions is present refer the client to the doctor and give pills on medical advice only.

Examination
While examining the client check and record the following.

- Weight. For future monitoring of weight gain.
- BP. For future monitoring.
- Breasts. There should be no lumps.

If there is no contraindication and pills are suitable for the client, prescribe the combined oral pills by adopting the following procedures

Instructions to the client
28-Pill Packet (containing 21 white and 7 brown pills). Instruct the client as follows

- Start the white pills on the first day of the menstrual cycle i.e. the first day of menstrual bleeding and take' one pill daily till all white pills finish.
- If menstruating, start the pills today and keep taking one pill every day till all white pills finish, but use a back-up method (condoms) for the first 7-day's of starting the pills.
- Start the brown pills immediately after finishing the white pills and continue taking one pill every day' for 7 days.
- Menses usually start 2-3 days after starting the brown pills.
- After finishing the 7 brown pills, start the new packet of 28 pills (it does not matter if one is still bleeding). Tell the client that the first menstrual cycle will be shortened due to starting the pills from the first day of menstruation.

If pills are forgotten

White Pills
Tell the client to do the following

- If one white pill is missed take 2 pills on the next day.
- If two white pills are misused during the first two weeks, take two pills

for the next two days and use a back-up method e.g. condom or abstain for 7 days.

- If two pills are forgotten during the third week, start a new packet and also use the back-up method.

Brown Pills

Tell the client that if brown pills are forgotten there is nothing to worry about as these contain only iron. Tell her to throw away the pills that have been forgotten and keep on taking other brown pills in the packet regularly and start the new packet on schedule.

Follow up Schedule

- Ask the client to come before finishing the last packet of pills to get more supplies.
- Tell her that she can come any time if she has a problem or any questions.

Common side effects

Side effects are dizziness nausea, vomiting tenderness or fullness of breasts, headache, spotting, bleeding and weight gain. These generally occur within a few days of starting the pills. Tell the client that it will subside within 2-3 months of taking oral pills as her body gets used to the level of hormones she is taking. Explain that the same problems occur to many women in early pregnancy.

Warning Signs

Ask the client to come to the clinic as soon as possible if any of the following problems occur

I) Abdominal pain (severe).
C) Chest pain (severe) with cough and shortness of breath.
H) Headache (severe) with dizziness and shortness of breath.
E) Eye problems (vision loss, blurring or flashes of light
S) Severe leg pain (calf or thigh).

FOLLOW-UP

The follow-up care and support of the client is very important for continued use of oral pills. The service provider has the responsibility to keep the clients satisfied in case of side effects by providing correct information and reassurance. Schedule the first follow-up visit after one month and then once every three months.

Follow-up visit

During the follow up visit, adopt the following procedure

- Ask about any problems or side-effects experienced
- Find out if she has been regular in taking pills by checking the day of the week she started the pills; all subsequent packets should have

started on the same day.

- Check BP and compare it with the last reading recorded on the CRC to find out if there has been any rise.
- Check weight and compare it with last reading

SIDE EFFECTS AND MANAGEMENT

Most women tolerate combined pills well. However, a number of them may experience side effects especially in the first few months.

Problem	**What to do**
Dizziness and nausea.	Make sure she is taking pill at bedtime. She should take the pill with meals and not on an empty stomach. Rule out pregnancy, and reassure the client.
Vomiting	
a) Once or twice during the day.	If it occurs within an hours of taking pill, ask her to take an extra pill from another packet
b) More than twice a day	Pills should be stopped. Inform that on withdrawal bleeding will occur. Counsel for another contraceptive.
Tenderness or fullness of breast:	Examine breasts for lump, if none is felt, reassure the Client, Prescribe a mild.analgesic Paracetamol) If necessary.
Weight gain	
(a) Less than 2 kg in 3 months	ask if her appetite has increased. If so advise or ask her to decrease food intake especially of fats and sweets.
(b) More than 2 kg in 3 months	Stop pills, insert an IUCD or give conventional method.
Spotting or irregular bleeding	

(a) Within 3 months of starting the pills	reassure the client that this is transitory. Ask if she has been forgetting to take pills. If so, ask her to be regular.
(b) After 3 months of starting the pill's	if this persists despite the client being regular in taken pills, than stop pills and give aback up method and watch/ investigate
Amenorrhoia	Check for pregnancy, if negative reassures and give oral pills with higher dose of hormones. If amaenorroea persist (after changing the pills) for more than three months, stop pill and give IUCD or conventional method.
Rise in BP (above 140/90 mmHg)	Advise her to come to the clinic for regular check of BP, in two visits, one week apart. If high BP persists stop Pills and give her another suitable method and refer
Rare Side Effects	
Acne	
(a) Mild acne	Avoid use of cream containing Lanolin. Ask her to keep the skin clean. And avoid fatty foods.
(b) Severe acne	Stop pills. Help her to choose another method
Pigmentation of skin (especially of face)	Stop pills. Help her to choose another method. Avoid use of cream containing mercury.
Generalized loss of hair	Ask if this followed after the start of pills, if so, stop pills help to choose another method
Depression or irritability	if conformed to have happened after starting the pills, stop pills,

help to choose another method.

Loss of sexual desire

If confirmed to have happened after starting the pills. Rule out local infection as a cause. Stop pills, help to choose another method.

Warning signs

If the client comes with any of the warning signs.

Refer to the doctor/ hospital immediately. Stop pills.

INJFCTABLES

Norigesit (NET.LN)

This is progestin Norethisterone enanthate and is prepared in an oily solution. A dose of 200 mg in 1 ml of oily solution is given by deep intramuscularly injection regularly at 8-week interval to protect the user from pregnancy.

Depo-Provera (DMPA)

This progestin is depo-medroxy-progesterone acetate and is prepared as microcrystalline suspension. A dose of 150 mg in 1 ml of the suspension is given by deep intra-muscular injection at 12-week intervals regularly to protect the user from pregnancy.

Mode OF ACTION

The progestin in Norigest and Depo-Provera acts as a contraceptive by

- Inhibiting ovulation in 50% of the menstrual cycle.
- Thickening cervical mucous to form a plug, which inhibits the transport of sperms.
- Making the endometrium less suitable for implantation of the fertilized ovum.
- Slowing transport of ovum through fallopian tubes.

Method of use

Explain to the client that the first injection is given during the first 5 days of the menstrual period. The subsequent injection will be given after.

- Every 8 weeks in the case of injection Norigest.
- Every 12 weeks in the case of injection DepoProvera.

Timing

Injectable contraceptives can be given at any time during the menstrual cycle but if given on day 6 or later in the menstrual period, ask the client not to have unprotected intercourse for the rest of her cycle. Offer her condoms or another back-up method to be used for the rest of her cycle if abstinence is not possible. When counseling a breast-feeding mother, advise to have a 6 weeks post-partum check-up. Explain that she will use injectables whenever her menses return or whenever she starts giving the infant other weaning foods. Reassure her that she does not need to start the injectables before 6 weeks post-partum since the risk of pregnancy in the first 6 weeks post-partum in a woman who is breast-feeding is extraordinarily low.

Stillbirth:
If the woman has had a baby who was born dead, refer her to a physician. She may have an abortion, or a disease such as Diabetes, which needs treatment.

GUIDELINES IN HOW TO OBTAIN HISTORY

Age: Ask the woman's age. If she is below 20 or more than 35 years old watch her closely. Refer her to a physician if you are worried.

A woman who becomes pregnant during adolescence is more likely to have the following problems.

- She may not be able to cope with motherhood and/or family life.
- Her body may not be developed enough to allow normal pregnancy and childbirth.
- She may give birth to a premature / or a low birth weight baby.
- She may suffer from hypertensive disease of pregnancy

A woman who becomes pregnant after 35 years of age is more likely to develop complications and more likely to give birth to a baby with genetic abnormalities.

Parity: A woman with four or more previous deliveries should be advised to deliver in hospital. Women who have had many deliveries are likely to have post-partum hemorrhage and mal-presentation. If a woman, does not like this advice, explain carefully to the woman and her family that there is a grave risk to her life if she suffer from hemorrhage at home.

Present health problems: Ask for symptoms of disease such as, cough difficulty in breathing, pain associated with urination, vaginal itching, if she is undergoing treatment for any condition. Present health problem should be asked about during each visit. Refer a woman with any health problems to a physician. She and her baby are more likely to have problems during pregnancy, Delivery and post-partum. Screening may be employed for problems such as anemia and goiter, which are harmful to the health of a pregnant woman and her baby. This kind of screening is very useful if the problems affect a large number of pregnant women; there are affordable and easy ways to address such problems.

Present pregnancy: Estimate the expected date of delivery (E.D.D) and the age of gestation (AOG). Use the last menstrual period as the basis. This refers to the first day of the last menstrual flow.
The E.D.D is estimated by counting nine months forward from the date of the LMP by adding more seven days.

ADVANTAGES

An Injectable has the following advantages

- It is highly effective. Success rate is 99.5%.
- Its use is independent of coitus.
- Protection from pregnancy is provided for 8 weeks with one injection Norigest and for 12 weeks with one injection Depo-Provera.
- It allows' the client to maintain privacy of use.
- It can be discontinued without a clinical procedure.
- A breast-feeding mother can use it after 6 weeks' of childbirth.
- Does not affect breast milk supply and its quality significantly.
- Does not cause serious side effects, as it contains no estrogen.

Health benefits

Injectable contraceptives are beneficial to health. They may decrease menstrual bleeding. This effect is of particular importance to women's health in areas where anemia is endemic.

DISADVANTAGES

The injectables may lead to the following problems

- Menstrual changes like spotting and irregular bleeding is common in the first few months of use with both Norigest and Depo-Provera.
- Amenorrhoea after prolonged use may occur (Women on Depo-Provera tend to have longer Amenorrhoea as compared to those on Norigest).
- There is some delay in return of fertility after stopping the injection. The woman may take up to 9 months to become pregnant after the last injection
- Cannot be immediately discontinued or removed from the body if complications develop or if pregnancy is desired.
- Do not protect against STDs including AIDS.

After informing about the type of injections available, their mode of action method of use, advantages and disadvantages, ensure that the client makes an informed and free choice.

Screening and selection

History

While taking history, ask for specific information regarding indication and contraindications as under.

Indications
Ask the client if she

- Needs contraception for long term use (more than 2 years)
- Is breast-feeding her child (after 6 weeks of childbirth).
- Has completed her family but does not want a permanent method.
- Has estrogen related side effects from Combined Oral Contraceptives (COCs)
  and wants to change method.

Contraindications

Ask the client if she,

- Is pregnant or suspected to be pregnant
- Has active liver disease
- Has a history of abnormal uterine bleeding.
- Has a lump in the breast.

Examination;
While examining the client, adopt the following procedure,

- Check & record weight (for future monitoring)
- Check and record BP
- Examine for any lump in the breast
- Conduct a pelvic examination to detect any abnormality if present.
  Give injection if no contraindication is detected.

Schedule for follow up;
- Ask the client to come for the next injection after 8 weeks for injection Norigest and after 12 Weeks for injection Depo-Provera.
- Tell Inj Norigest acceptor that if it is difficult for her to come on the due date, she can come up to 7 days earlier or 7 days later for the next injection.
- Tell the inj. Depo-Provera acceptor to report for the next injection exactly after 12 weeks.
  However, it can be given unto two weeks earlier or two weeks later.
- Explain that it is very important that she comes for the next injection on time otherwise she can become pregnant, as the effect of the injection will wear off.
- Tell her to come to the clinic any time she wants or there is a problem.

Warning signs

Tell the client that she should come to the clinic if any of the following problems occur,

- Excessive vaginal bleeding.
- Excessive weight gain.
- Depression.

FOLLOW-UP

The follow up care and support of the client is very important to keep her satisfied and to ensure continuation of Injectable use.

Follow-up visit

During the follow-up visit;

- Weigh the client
- Check BP to monitor any change.

If there is no excessive weight gain and the blood pressure is within normal limits, Administer the next dose of the Injectable.

SIDE-EFFECTS &THEIR MANAGEMENT

Most women using the Injectable contraceptive experience some changes in their menstrual pattern. Spotting and slight irregular bleeding are common. Similarly, most women have some weight gain after the injection, but it can be controlled by dietary changes.

Side effect	Management
A) Common side effects	Reassure the client that this is transient and will not effect her health.
• Sppoting or slight irregular bleeding	Give iron tablets.
• Heavy or prolonged bleeding	Give one cycle of combine pill (taken) one pill twice a day for 10 days. If bleeding continues after taking pills, refer to a doctor/ hospital.
Amenorrhoe	Do a pregnancy test. If there is no pregnancy, reassure the client that the Amenorrhoea will not affect her health adversely and give her 1 cycle of pills, If Amenorrhoea continues and the client is unhappy, stop the injection and counsel her for other methods. If Pregnancy is detected, stop the injection.

Weight gain

a. Less than 2 kg in 3 months.	Reassure the client and ask her to reduce in take of fats and sweets.
b. More than 2 kg in 3 months.	Stop the injection Give IUCD or a conventional method.

B) Rare side effects

- Rise in BP

a. Slight rises but BP below 140/90 mm of Hg	Reassure the client that the BP. will settles.
b. Sudden rise but above 160/90 mm of Hg.	stop injection.
c. Irritability, depression or feeling of tiredness.	Refer to a doctor for advice.

BARRIER METHODS

These include condoms and foaming agents. Barrier methods, particularly condoms, help to protect the users against some sexually transmitted diseases (STDs) including infection with HIV, they also help prevent cervical cancer indirectly.

CONDOMS

Condoms are made of latex rubber. They are available at all family welfare centers, and are also widely available in the market under different brand names. They are packaged rolled on to the rim mostly they are lubricated and sealed hermetically in plastic foil.

Advantages

- It is easy to use.
- Use does not require medical advice or examination.
- It has no side effects.
- It protects against AIDS & other STDs.
- It is easily available

Condom may be used as a back-up method to prevent pregnancy when oral pills users forget to take 2 or more pills consecutively and when the pill user changes over from a high to a low dose pill.

Disadvantages

- It must be used every time the couple has sexual intercourse.
- The failure rate is high around 12% as compared to other contraceptive methods, (effectiveness can be increased by the simultaneous use of a foaming agent or contraceptive jelly by the woman).

Screening and Selection

No special screening and selection is required. However, if the client has used condom before ask if any allergic reaction has occurred.

Follow up

Follow-up is needed to ensure that the client has adequate quantities of condoms or if the client wants to change the method. During the follow up visit tell the client that the re-supplies may be obtained from the center, a field worker or a shop. Ensure that supplies are available at the source to which you refer the client. Follow up is also needed if the method fails so that the client can be considered about alternative methods.

INTRAUTERINE CONTRACEPTIVE DEVICES

These are devices, which are placed in the uterus to prevent pregnancy. The types of intrauterine contraceptive devices available are

Copper-T (380-A)

It is a T-shaped, copper-releasing device with copper on the stem and both arms. It has few side effects and is very effective. It is effective for 10 years.

Copper-T Multi-load

This is a copper releasing, anchor-shaped device, with copper on the vertical shaft. The arms of the multi-load are very flexible and re-shaped to fit in and adapt to the uterine cavity. The device is available in the market. It is effective for 5 years.

Advantages

- Once inserted, it requires no repeated action by the client or her husband. Thus there is no chance of client error.
- The method is effective, with a lower failure rate (0.4 – 2.4%) as compared to some other contraceptives.
- Fertility returns soon after removal.
- It does not interfere with sexual intercourse or harm the husband or wife.
- It does not affect breast milk; hence, breast-feeding mothers can use it safely.
- It does not have many side effects and requires fewer follow-up visits.
- The clients can maintain privacy of use.

Disadvantages

- It requires 2 to 3 months adjustment period in which the client may have menstrual problems and occasional uterine cramps.
- Insertion medical follow-up and removal has to be done by a trained person and in a clinic setting.

SCREENING & SELECION

Once the client has chosen the IUCD, find out if the method is suitable for her. Rule out contraindications by taking a detailed history and conducting a physical examination.

History

While taking history, ask for information regarding indications and contraindications as listed below.

Indications

If the client has

- One or more children and wants an effective method for spacing the next pregnancy.
- Completed her family but does not want surgical contraception.
- Regular menstrual cycles.

Contraindications

If the client

- Is pregnant or suspects that she is pregnant
- Is nulliparous?
- Has irregular vaginal bleeding.
- Has PID or repeated pelvic infections.
- Have tumors of the genital tract.
- Has severe anemia (Hb less than 7 gm).
- Has a history of ectopic pregnancy in the past.

EXAMINATION

Physical Examination

- Check for anemia. Pelvic Examination.
- Look for any abnormality, signs of inflammation or pregnancy.
- Determine size, position and consistency of the uterus and check for mobility.
- Feel for any mass or tenderness in the uterus or adenexa Speculum examination
- Look for any abnormality or signs of inflammation or pregnancy..

Vaginal Examination

- Check for redness (vaginitis).
- Check the discharge (color, consistency and odour to distinguish normal from abnormal).

Cervical Examination

- Check for redness or abnormality (cervicitis, erosion, polyp or suspected cancer).
- Check the discharge (color, consistency and odour).

Postpone insertion of the IUCD if any of the following conditions are detected or

suspected.

- Severe anemia (Hb 7 gm or below).
- Cervicitis or large cervical erosion.
- Vaginitis.
- Urinary tract infection.
- Polyp.

Insert the IUCD after the above conditions have been treated.

Timing for insertion of

An IUCD may be inserted at any time during the menstrual cycle after excluding pregnancy but there are certain advantages to insertions performed or toward the end of menstruation such as

- There is little likelihood that the woman is pregnant.
- Bleeding and cramping may be less noticeable at this time and hence less apt to cause anxiety.
- Cervix is soft and open.

IUCD insertions may also be done at the following times.

- Post-partum immediately following delivery (insertions after one week or before six weeks should be avoided because of the potentially greater chance or partial uterine perforation during insertion).

- Immediately after or within 3 weeks of uncomplicated spontaneous or induced first trimester abortion, provided there is no evidence of infection (e.g. no fever, and tenderness in the uterus and no purulent or foul smelling vaginal or cervical discharge)

FOLLOW UP SCHEDULE

- Tell the client that she should come after her first menses, but not later than 3 months for her first follow-up examination.
- If she has no complaints subsequently, she needs to come only once a year afterwards.
- Assure her that she can contact at any time she feels there is a problem.

COMMON SIDE EFFECTS

Inform the client about common side effects of IUCD

- Pain and cramps at the time of insertion or sometimes for several hours or 2-3 days after insertion are common. Tell the client to take mild analgesics (like Tab. Aspirin or Paracetamol) to relieve the pain.
- Increased vaginal discharge after the insertion is common but usually becomes normal after the first menses.

Menstrual changes like inter menstrual spotting or bleeding prolonged and increased menstrual flow is common side effects. These generally subside during the first three months.

- Expulsion of the IUCD may occur during menstrual flow. Tell the client to be alert to this possibility in the first 3 cycles after insertion. If the IUCD is expelled, tell her that she should come to the clinic as soon as possible for re-insertion or obtaining another contraceptive.

Warning signs

Ask the client to come to the clinic immediately if any of the problems given below occur

P	Period late (pregnancy?) or abnormal bleeding.
A	Abdominal pain or pain during intercourse.
I	Infection - abnormal vaginal discharge (foul
N	smelling) Not feeling well (fever, chill, etc).
S	Strings are missing, shorter or longer.

FOLLOW-UP

Follow-up care and support of the client's decision to use an IUCD is very important to keep her satisfied and re-assured, especially during the first three months when side effects are more common.

Follow-up visit

During every follow-up visit, adopt the following procedure.

- Ask the client if she has any complaint.
- Check for anemia if she complaints of excessive or prolonged bleeding.
- Do a pelvic examination to check for
  - IUCD threads
  - Signs of pregnancy
  - Signs of infection

SIDE-EFFECTS & THEIR MANAGEMENT

After IUCD insertion, clients may have some side effects, which are not very serious and usually settle within 1 to 3 months. Mostly, clients need only reassurance and simple treatment. However, if the symptoms become severe or persist, the client may need immediate medical attention and removal of IUCD.

Problems	**What to do**
Changes in menstrual cycle Within 3 months of IUCD insertion.	

Problem	Management
Intermittent or continuous spotting.	Reassure the client. Give her Tab. Iron 1x3 for 7 days Ask the client to come again if the problem continues. The above treatment can be continued for 3 months if condition does not improve.
Heavy bleeding.	Reassure the client. Give her. Tab. Iron 1x3 for 7 days. In addition give her Tab. Mefanemic acid (Ponstan). One tab 3 times daily for 3- 5 days.
Heavy bleeding and spotting.	Do pelvic examination to check for pelvic Pathology associated with pain or partially expelled IUCD. Any infection advises pregnancy test (to exclude a threatened abortion or ectopic pregnancy). If any of the, above conditions is suspected, refer to a doctor.
Bleeding associated with pain and foul smelling discharge.	Remove IUCD Treat with antibiotics. Give another contraceptive.
Client is not willing to continue With the IUCD	.Remove IUCD and counsel for other methods
If bleeding persists. after 3 months of insertion	Remove IUCD Give another contraceptive. Check Hb and treat for anemia if present. Reassure the client

For example:
The LMP is December/29/2000.
The EDD is October 7th2001.

A woman is supposed to deliver between 37 to 42 weeks of gestation. By that time, the baby is at term. If a woman goes into labour after 42 weeks, verify the EDD. If you are worried, refer her to the hospital.

Fetal movements: From the fifth month onward, ask the woman if she feels fetal movements. If there are no fetal movements, there may have been an error in estimating the LMP and the EDD or, the woman may not be pregnant and she may have a medical condition that mimics pregnancy. If fetal movement was initially felt but has now stopped, the baby may be in a serious condition or may have died. In both situations, verify the LMP and EDD, the fetal heart beats, the size of uterus and the fetal outline. If your assessment points to an abnormal condition or you are in doubt, refer the woman to a physician and ask for ultrasonography.

Problem with present pregnancy: At each visit, ask the woman how she feels and if she has discomfort or problems such as abnormal vaginal discharge, abdominal pain, or if there is any thing that is bothering her, Find out causes for discomfort or problem. Take appropriate action; refer her to a physician if necessary.

PHYSICAL EXAMINATION: The physical examination includes assessing the woman for

- General physical condition
- Temperature
- Height
- Blood pressure
- Pallor
- Goiter
- Abdominal examination
- Fetal heartbeat
- Pitting edema and oral health

General physical condition: If the woman is extremely weak she needs to increase her food intake. If she is obese she needs to be screened for diabetes. If she has puffiness of the face and extremities, she may have hypertensive disease of pregnancy, If she walks with a limp or has a pelvic deformity and is a primipara, she is at risk of obstructed labor.

Fever: Take the woman's temperature. If it is 38 C or higher, look for other signs/ symptoms which may be causing the fever such as cough, pain or frequent urination.

Pain

At the time of IUCD insertion

Problem	Management
If perforation is not suspected.	Reassure the client
Pain at the time of insertion followed by cramping pain, lasting for 10-15 minutes.	Reassure the client
Severe cramping pain soon after insertion.	Treat for shock (if present) Remove IUCD Reassure the client Give another contraceptive. If perforation is suspected refer the client to a hospital.

Within 3 months of IUCD insertion

Problem	Management
Mild pain after insertion.	Reassure the client Give her, Tablet Paracetamol or any other Analgesic as required
Severe dysmenorrhoea each month	Remove IUCD Reassure the client Give another contraceptive
Pain with IUCD partially expelled	Remove IUCD Insert another IUCD after excluding Pregnancy.
Pain in the lower abdomen with tenderness foul smelling discharge / fever.	Remove IUCD Treat with antibiotics Give another contraceptive
If pain persists after 3 months of IUCD Insertion	Remove IUCD Give another contraceptive

Increased Vaginal Discharge

Simple watery discharge	Reassure the client
Foul smelling discharge with pain in lower Abdomen and fever.	Remove IUCD Treat with antibiotics preferably Doxycycline 100 mg BD for 7 days plus. Metronidazole 200 mg TDS for 10 days Ciprofloxacin 500mgs single dose. Give another contraceptive

Expulsion of IUCD

Partial expulsion Partial expulsion with no pelvic infection	Remove IUDC Insert another IUCD after excluding pregnancy.
Partial expulsion with pelvic infection.	Remove IUCD Treat with antibiotics Give another contraceptive

Complete Expulsion

Complete expulsion soon after insertion.	Reassure the client and if she is Willing insert another IUCD If she is not willing, give her another Contraceptive.
Complete expulsion within few days after insertion .	Reassure the client and Wait for next menses before Insertion
Complete expulsion with delayed menses.	Give another contraceptive in the meantime. Advice pregnancy test. If negative give appropriate contraceptive.

COMPLICATIONS & MANAGEMENT

Complications sometimes occur after IUCD insertion. Although these are very rare, the service provider should be able to recognize and manage them most of the time. A case with complications has to be referred

Complications and their management are given below

Thread Missing

Sometimes the client may come to the clinic complaining that she cannot feel the threads of the IUCD. She may also come for some other complaint and during check-up, the threads are found to be missing. In such a case, the possibility is that

- The IUCD has been expelled.
- The IUCD or threads are displaced.
- A pregnancy has occurred.
- Uterine perforation has occurred.

Ask the client if she has

- Seen the expelled IUCD.
- Missed her periods.

Conduct a pelvic examination to check if the

- Threads are visible.
- Client is pregnant

If pregnancy is suspected advise pregnancy test.
If pregnancy test is negative, advise ultrasound to see if the IUCD is in the uterus or is displaced. Use the following guidelines to manage the problems.

Problems	What to do
History of expulsion	Wait for the next menses. Give another contraceptive in the meantime. Insert another IUCD after the next menses.
If pregnancy is confirmed.	Refer to doctor/gynecologist for removal of IUCD.
If client is not pregnant	Advise ultra sound
IUCD appears to be in the uterus but Threads are drawn up in the cervix	Bring the threads down with the help of an artery forceps.
Threads are absent.	Refer to doctor for removal of IUCD.
Perforation is suspected	Refer to hospital for removal of IUCD.

Pregnancy
Sometimes, an IUCD client may complain of delayed menses. She may give history of the IUCD being expelled earlier.

Management

Ask the client

- The date of her last menstrual period.
- If the IUCD was expelled.
- If she has any spotting or bleeding.

Do a pelvic examination to check, if

- IUCD threads are visible.
- The client is pregnant.

If pregnancy is suspected, advice pregnancy test If pregnancy is confirmed, use the following guidelines to manage the problem.

Problems	What to do
Threads visible With no vaginal bleeding.	Remove the IUCD (In one out of 4 cases removal of IUCD will result in Spontaneous abortion)
With intermittent or Heavy vaginal bleeding.	Refer immediately to a hospital (as client may be undergoing spontaneous abortion)
Threads not visible	
History of IUCD expulsion. (Normal pregnancy)	Ask her to come to the clinic for antenatal check Ups.
No history of IUCD expulsion	Warn the client that this may lead to Septic abortion

- The client wants termination of pregnancy. Refer her for medical advice

• Client wants to continue with the pregnancy	Refer her to a doctor/ gynecologist as her Pregnancy should be follow up closely.
• Intermittent bleeding/ spotting accompanied with pain.	Refer her immediately to hospital (She may have ectopic pregnancy specially if fornices are tender.)

Perforation

Ask the client if she

- can feel the IUCD threads
- Has increased vaginal bleeding.

Do a pelvic examination to check if

Threads are visible.
Pregnancy is suspected.

If pregnancy is suspected, advise pregnancy test. If there is no pregnancy, advise ultrasound to check if IUCD appears in the uterus or is displaced. If perforation is confirmed, use the following guidelines to manage the problems.

Problems	What to do
Partial perforation	
• Ultrasound X-ray shows IUCD	Refer to gynecologist or hospital for removal of IUCD.
Threads are visible IUCD Can not be removed due to embedding in the endometrium or myometrium.	Refer to hospital for removal of IUCD.
Complete perforation • Ultrasound X-ray shows • IUCD outside the uterus.	Refer to hospital for removal of IUCD

Pelvic Inflammatory Disease

Pelvic inflammatory disease (PID) is a serious complication that occurs in the first few weeks after IUCD insertion. The client may come to the clinic with one or all of the following complaints

- Pain during sexual intercourse
- Abnormal/ prolonged vaginal bleeding
- Foul-smelling, vaginal discharge
- Fever with chills
- Not feeling well.

Management

Ask the client about the above complaints.

Check her temperature. If it is above 99^{0}F; do a pelvic examination to check for infection, Tenderness, presence of mass or abnormal discharge).

Advise pregnancy test to check if the client is pregnant.

Use the following guidelines to manage the problems.

Problem	**What to do**
Patient is pregnant with one or more symptom of PID.	Refer her immediately to hospital or Gynecologist. Reassure the client.
Low grade fever.	Remove the IUCD. Treat for infection.
No pelvic mass palpable	Tab. Paracetamol 1x3 for 3 days. Advise her to go to a doctor or hospital if the condition does not improve or worsens.
No abdominal guarding or tenderness.	As above
Patient with severe infection	Refer her immediately to hospital for treatment.

- High grade fever with vomiting.
- Appearing acutely ill.
- Guarding or tenderness in lower abdomen.
- Pelvic mass felt on P/V examination.

Note

- The IUCD can be inserted anytime before the expiry date without affecting it is efficacy and duration of action.
- The tarnished IUCD can be used as long as the packing is not opened.

TUBELIGATION

Tube legations is a permanent contraceptive method. It is safe and simple and can be done with just local anesthesia and light sedation. Tube legation has two common approaches i.e. Minilapratomy and laprascopy.

Screening and selection

The doctor should review the client's history, the physical finding and make decision about the client's suitability for operation.
As service provider, ascertain the following

- The decision to operate is in the best interest of the clients and has taken in to accounts the medical, psychological, social and cultural factors and the implication of delaying the procedure.
- The consent of the client is informed and voluntary and consent form is duly signed
- The client is medically fit to under go surgery. While taking history or performing physical examination, look for conditions that may contraindicate surgery.

Absolute contraindication

- Pregnancy
- Pelvic infection

If absolute contraindication to surgery is found

- Refer for appropriate treatment.
- Counsel for an alternate method of contraceptive
  Which may be a long term method such is IUCD, Norplant, implants (provided there are no contraindications) or vasectomy for male partner.

Relative or temporary contraindication to TL

- Respiratory diseases(TB,Chest infection)
- Hypertension
- Diabetes mellitus
- Renal impairment
- Sever anemia HB. Below 7gm%
- Psychiatric disorder
- Systemic or localized infection
- Pelvic mass
- Pelvic or abdominal Adhesion
- Umbilical hernia
- Recent injury
- Immobile uterus

The operation can be performed after the above conditions have been treated. Also inquire about the following

- Allergy to any medication
- Addiction to drugs
- Any current medication

If temporary medical contraindication to surgery is detected

- Treat or refer for treatment
- Counsel about an appropriate temporary contraceptive method.
- Tell the client to return for TL.when treatment is completed.

Physical examination

This should include the following

- Pulse, BP, auscultation of heart and lungs.
- Temperature
- Weight
- Abdominal examination
- Local examination of the operation area.
- Other examinations as indicated by the medical history
  For interval procedures, pelvic examination is essential in order to
- Determine the size, position and mobility of the uterus.
- Confirm the absence of infection
- Exclude pregnancy
- Detect abnormality

Laboratory investigation

Laboratory test to screen anemia, DM, and renal disease. These will include.

- A blood test for estimating haemoglobin level.
- Urine analysis for detecting sugar and protein.

Timing of the procedure

TL. May be performed immediately post partum after 40 days of delivery or post abortion or any time after this.

Post partum Tube legation

It is performed within 48 hours of vaginal delivery. At this time the funds is near the umbilicus, permitting ready access to the tubes through a small subumbilical incision.

The patient can be sent home within few hours. This early surgery avoids readmission to hospital and the possibility of losing client whom is willing for TL. but is unable to return because of reasons such is domestic responsibility including the care of young children.

Before performing post parmtum TL. Confirm the following

There has been no complication during labour and deliveries, which contraindicate surgery, include.

- Puerperal fever
- Prolonged rupture of membranes
- Hypertensive states, including pre eclamsia and eclamsia
- Post partum psychosis
- Disease/abnormality of the new born
- Post partum hemorrhage

Side effect and management

Some discomfort is common after the operative procedure. Women undergoing lapráscopic legation may feel chest and shoulder pain for one or two days because of trapped gas remaining in the abdominal cavity. This will settle with analgesics.

Women undergoing TL. often complain of heavy or irregular periods.

These are, however, not related to the procedure. If the complaint is trouble some the client should be referred to a gynecologist.

Complication

Tube legation through minilap is a safe procedure and complications are few.

There may however, be short term (immediate) or long term(delayed) complication as listed below.

(i) Short-term (immediate) complication are as under.

- Drug reaction.
- Bleeding from wound.
- Uterine perforation.
- Injury to mesosalpinx, and broad ligament.
- Anesthesia problems.
- Tears and transection of the tube.

(ii) Long term (delayed) complications are as under.

- Wound infection
- Haematoma or abscess formation.
- Menstrual disorders.
- Ectopic pregnancy
- Failure of sterilization (which is rare) due to reanastomosis of tube.
- Subsequent regret.
- Psychological problems

VASECTOMY

Vasectomy provides permanent contraception for men who decide to have no more children. It is a simple, safe and quick surgical procedure. It is not castration, it does not affect the testes and does not affect sexual ability.
The surgeon, through a small opening in the man's scrotum ties and cuts the right and left vas deferens. This keeps the sperms out of the client's semen and he can not make a woman pregnant.

Indication

A married healthy man who has two or more children asking for male sterilization.

Contraindications

Relative	Absolute
Bleeding disorders.	
Psychoneurotic problems.	Scrotal infection.
Drug addiction.	Inguinal hernia.
Diabetes mellitus.	Varicocele.
Hypertension.	Hydrocele.
Liver disease.	Tuberculosis of genital tract.
Heart disease.	Primary infertility.

Many of these conditions can be treated after which vasectomy can be performed.

Psychological Screening

Screen all clients through counseling and assess to determine emotional stability, suitable for vasectomy.

Medical Screening

Take the client's medical history and conduct a physical examination. Ask about current medication past illness and surgery; bleeding disorders; allergies to local anesthetics or analgesics; any evidence of hypertension or heart disease; kidney or bladder infection; diabetes; thrombosis, anemia; liver dysfunction; or sexually transmitted diseases. Although important in the medical history, these conditions are not necessarily absolute contraindications to vasectomy.

Laboratory Tests

Many programs do not include special laboratory tests on a routine basis. However, if the surgeon suspects any clinical abnormality, access to basic laboratory facilities or to referral center will be needed for examinations. Facilities should be available for

Height: Measure and record the height of the woman in cm, if you do not have a tape measure be sure to know your own height and note which part of your body corresponds to 145 cm. You should advise all primiparas who are less than 145 cm, to deliver in the hospital as they are at risk of obstructed labor.

Blood pressure: Take the blood pressure. If it is 140/90 or higher. (Either the systolic is equal to or higher than 140 or the diastolic is equal to or higher than 90) ask the woman to sit comfortably and take the blood pressure again after 15 minutes. If it is still raised, she may have hypertensive disease of pregnancy.

Pallor: Observe the color of the woman's nails, the mucous membranes of her lower eyelids, her mouth and the palms of her hands, pallor Indicates anemia.

Goiter: This is a swelling in the neck due to enlargement of the thyroid gland is usually, but not always, due to iodine deficiency in the diet. Check every pregnant woman's neck to rule out goiter.

Check for pitting edema: Pitting edema is swelling usually seen in the legs. When pressure is applied over the shinbone, it leaves a depression, which slowly disappears. This may be an early sign of hypertensive disease of pregnancy in the second to eight month of pregnancy, if not treated; swelling will extend to the hands and face and may result in convulsions. In the ninth month though, swelling of the legs may not be associated with hypertension but may only be due to the increased body's capacity for keeping more fluid in the tissues than usual which should not cause alarm.

Oral check-up: Examine the gums and teeth. A mild inflammation of the gums is some times seen in pregnancy and is nothing to be worried about. Advise pregnant women to breathe gently clean teeth after each meal.

Abdominal Examination:

It should be performed at each visit. Ask the woman to lie down on her back with her knees slightly flexed.

1. Inspection: Look at the abdomen for scars, shape and size. A scar from a previous caesarian section means the woman needs to be referred to a doctor, as she may need another caesarian.

2. Palpation: check the fundal height and estimated age of gestation and feel for the fetal outline. The lie and the presentation of the fetus should be determined by the third trimester. Engagement of the fetal head into the pelvis can also be assessed in the later stage of pregnancy.

Fundal Height: If the fundal height is too large. The following point should be considered. Face the woman's head. With both hands feel and try to determine the fundal height and the part of the fetus situated in the fundus.

- Haemoglobin analysis.
- Analysis of urine for sugar and protein
- Bleeding and clotting time.
- Semen analysis for postoperative assessment.

Male libido, spermatogenesis & ejaculation

It must be remembered that the male potency is not directly related to the spermatogenesis, because a person may be impotent yet producing enough sperms for fertilization Testes are basically a pair of ductless glands which do not require any ducts to carry the male hormones to the system. Therefore cutting the vas will not in any way hinder the hormonal functions of the testes thus preserving the potency of the vasectomised client. Similarly the processes of the ejaculation is not disturbed in any way because the volume contributed by the sperms is not more than 5%. If there is any complaint or inquiry about the loss of libido, one must look for other causes. It is a well-documented fact that the male potency and libido is enhanced after vasectomy. The feed back mechanism of L.H. and FSH and LHRH are not affected by vasectomy though in certain selected cases anti sperm anti-bodies have been detected.

Complications

- Toxic reaction to local anesthesia.
- Haematoma formation. This may occur if a bleeding vessel has not been ligated or the client performs strenuous activity' within 48 hour of surgery. If the Haematoma is small, advise rest, local ice packs and analgesics. If the Haematoma is large or infected, refer the client for advice, as surgical management may be needed.
- Infection (1% of total cases). This may occur if skin preparation. Inadequate or aseptic technique has not been observed. An antibiotic may be needed. The source meticulous use of antiseptic solution to keep the fingers of the surgeon free of contamination and to avoid the contamination of instruments and linen.

- Sperm Granuloma. This may rarely form at the site of the occluded vas. In the majority of cases, it is symptomlesss and easily treated with analgesics and anti-inflammatory drugs. Occasionally, a persistent Granuloma may require surgical removal. Refer the client for' medical advice.

- Epididymitis and orchitis Analgesics, antibiotics and scrotal support are needed.

- Tetanus and gas gangrene. Refer to hospital.

- Post-vasectomy psychosis/neurosis It needs re-assurance and rarely a psychiatric consultation

- Mortality's rare and the worst contributor to death after vasectomy is due to lack of proper aseptic techniques.

Vasectomy is not a minor operation

Although vasectomy is a simple operation, if the aseptic technique adopted is not standard, operative manipulation is crude and post-operative care not proper, disastrous results and even death can occur. The following are particularly emphasized so that due care is exercised.

- Many surgeons perform a spermatectomy rather than vasectomy i.e. the vasectomy is isolated, ligated and removed before tile sheath of the vas is fully divided, which may result in greater injury to blood vessels and nerves causing neuralgia, swelling and tenderness in tile testes. Such a condition is called epididymal stasis or epididymites.

- Since tile scrotal tissue is lax when blood vessels are injured during operation, especially small arteries bleeding into the scrotal sac may result and is hardly self-curing. One has to ensure that bleeding from all vessels has been stopped at the end of the procedure, otherwise a Haematoma will form. If the Haematoma goes untreated, pain and infection can result.

- Aseptic conditions and sterile techniques, as well as good postoperative care, cannot be neglected. Post-operative infection and even death can occur.

No scalpel vasectomy

No scalpel vasectomy is a minor procedure for men that is done by doctors. It is permanent sterilization for men who do not want any more children.

How effective is it

Vasectomy (male sterilization) is very effective. If one hundred men are sterilized only one or fewer will cause a pregnancy during the first year of procedure.

How does it work?

The doctor makes a tiny puncture or cut in the scrotum and then cuts the tubes that carry the sperm from the Testes to the penis. After the procedure the man still produces semen., but there are no sperm in it.

Advantages

- Very safe and simple procedure that takes about 15-30 minutes by a trained doctor.

- Very effective.

- Permanent.

- Does not interfere with sex.

Disadvantages

- May cause some discomfort during and following the procedure

- Is not effective immediately.

- Another method of family planning must be used for several weeks after the procedure until all of the sperm in the tube are expelled.

- It is a permanent and expensive to reverse.

Possible side effect

Side effects are unusual following vasectomy. Occasionally men have swelling and discomfort of the scrotum, bleeding or infection.

Client Instruction

Question the client's decision to be sterilized. How long has he considered it? Has he discussed it with his wife or partner? How would he feel if circumstances change in his life such as divorce or death of a child or spouse? Does he understand that the method is permanent?

Give the client instruction before the procedure

- Eat a light breakfast the morning of the procedure.
- Bathe on the day of the surgery and wear clean clothes.
- Improve bowels the morning the surgery and urinate just before the
- procedure.
- Ask some one to accompany client home after the procedure.

Give the client instruction after the procedure

- Rest for a day or two
- Don't lift any thing heavy or do heavy work for one week after the procedure.
- Take all of the medicine given at the clinic.
- Keep the incision clean and dry.
- May bathe after 24 hours.
- May notice bruising in the area of the stitches, this is normal.
- The stitches will dissolve and don't have to be removed.

Note: (These instruction must be modified if non absorbable sutures or used or no sutures at all.)

Avoid intercourse for two -three days and then use condoms for 20 ejaculation.

4 Review possible side effects. Return immediately to the doctor or clinic if there is fever. Bleeding, or pus from the incision, dizziness, excessive scrotal pain which persist or gets worse, excessive swelling of the scrotum.

Note: If semen analysis is available, have sperm analyzed after 15-20 ejaculation.

INFERTILITY

Infertility means inability of a couple to conceive. In case of women it is inability to conceive and in case of man inability to procreate.
If a couple fail to conceive in one years of regular intercourse they are called infertile.

Classification of infertility

1- Primary infertility a couple that has never conceived despite unprotected intercourse for 12 months.

2- Secondary infertility couple has previously conceived but subsequently unable to conceive within 12 months despite exposure to unprotected intercourse.

Factors essential for fertility

Male

1- Semen good quality semen with sufficient number of spermatozoa with good motility and normal morphology.

2- Passages potency of passage from epididymis to ejaculatory ducts.

3- Potency ability of husband to implant semen in the posterior fornix of the vagina.

Female

1- OVA production

2- Passages from the vagina to the fallopian tube.

3- Reproductive tract environment

Causes of infertility

In Males

1- Semen Failure to produce healthy semen with sufficient number of spermatozoa is responsible for infertility. Motility of sperm , morphology of sperm
Spermatogenesis Azospermia means absence of sperm in the semen

Oligospermeia the number of spermatozoa is less than normal

The causes of Azospermia and oligospermia are

1- Chromosomal abnormalities in such cases either the testes fail to develop or under developed. This abnormality in male is Klinefelters syndrome

2- Undescended testes

3- Damage to the testes

i- Trauma

ii- Infection e-g Mumps 20-40% of patients with mumps get Orchitis ---- testicular atrophy

- TB
- Syphilis
- Surgery
- Irradiation
- Neoplasm of the testes

4- Suppression of spermatogenesis

- Varicocele
- Repeated hot baths
- Any severe acute or chronic illness

Other factors

- Presence of antibodies
- High viscosity
- Volume

Obstruction in the passage

- Congenital Absence or maldevelopment of vas deferens.
- Infections
- Surgery

Failure to deposit semen in the posterior fornix of the vagina

- Psychosexual problem
- Hypospadias
- Phimosis

In Female

- Ovulation
- Amenorrhoea
- Anovular menstruation
- LUFS (Luteinized unruptured follicle syndrome)

Obstruction in the passages

- Infection TB, post abortion, post partum,gonococcal, or chlamydial infections. A ruptured appendix lead to infection in the pelvis
- Spasm of the Tubes
- Endometriosis

Cervical Factors

- The cervical mucous may become hostile due to production of antibodies against the spermatozoa of the husband
- Loss of mucous
- Faulty direction of cervix e.g. retroversion and severe prolapsed

In both female and male

- Infrequent coitus
- Dyspareunia
- Use of lubricants

Investigation of infertility in man

- History
- Physical Examination
- Laboratory tests

History

- Age and profession
- Are they separated for long times?
- Other marriage, and children therefrom
- Contraception
- Coital problems
- Injury- operation for hernia Varicocele, Hydrocele, Undescended testes

Examination

General physical examination should be carried out. The examination should cover all the systems. The genitalia should be examined for any scar, Hydrocele, Varicocele, descent and consistency of testes Hypospadias and discharge per urethra

Laboratory tests: Semen Analysis The specimen should be collected after coitus interruptus or masturbation. Condom should not be used to collect specimen for analysis

Semen should be examined for

1. Quality of the ejaculate (1 to 4 ml)
2. No. of spemartozoa per ml (20 to 100 million)
3. Motility of the spermatozoa (70 to 80 % normal)
4. Morphology of the spermatozoa (50 – 80 % normal)
5. Presence of pus cells

Special Investigation

1. Hormonal Assays for FSH. LH. Prolactin and testosterone
2. Testicular biopsy specimen is examined for the presence of spermatozoa. If spermatozoa are present the cause is bilateral block, if no spermatozoa the fault is in the testes.
3. Vasography
4. Chromosomal studies

Investigations of the female

- History
- Physical examination
  - i- general
  - ii- systemic
  - iii- pelvic
- special investigations

History

1. Age Down syndrome, trisomy 21.
2. Duration of marriage and marital relationship and problem regarding coitus and use of contraception
3. Previous marriage and pregnancy

4. Detail menstrual history
5. Obs. History in cases of secondary infertility
6. History of smoking, alcohol, drug use.

Physical examination
General

- weight
- development of secondary sexual characters
- abnormal distribution of hair
- Abnormal deposition of fat.

Systemic
All systems should be examined for any local disease

Pelvic
To see any local abnormalities

Special investigations:

i- Ovulation to find out the presence of progesterone in the body during the second half of the menstrual cycle. The following tests should be carried out to find out ovulation.

1. FSH, LH
2. Basal body temperature chart
3. Ultrsonoghraphy. During the first half of the cycles ovarian follicle enlarge which disappears after ovulation
4. Hormonal assays for serum progesterone and estriol or urinary pregnanediol for the presence of ovulation's
5. Endometrial biopsy a piece of endometrium taken in the pre menstrual period and sent to the laboratory for histopathology. In our country TB is a common cause of fertility, Specimen should be sent for test of TB.
6. Laparoscopy the presence of corpus luteum provide visual evidence of ovulation and also see the patency of the tubes and locale pathology
7. Cervical mucous tests

a. Ferning test
b. Spillbarkett test

Test for patency of fallopian tubes:

1. Laparoscopy to see tubes, uterus, ovaries,
2. Hysterosalpinography (HSG)
3. Indication for (HSG)

- To localize site of obstruction
- To diagnose small uterine neoplasm

- Follow up after plastic tube surgery

Sime's post coital test to find out whether the husband spermatozoa can penetrate the cervical mucus successfully.

Procedure: The wife is advised to have coitus in the morning near the ovulation time and should attend the clinic for post coital test as soon as possible, not later then two hours the patient is put in lithotomy position unlubricated speculum is used to see the cervix. The specimen is aspirated from the posterior fornix by a pipette for microscopic examination The presence of 10 or more motile spermatozoa means the test is satisfactory.

Treatment

General

Reassurance and advice to wait and educate her regarding the timing of coitus. Improvement of general health, type of their diet, if any fault is diagnosed, the couple should be informed and treated accordingly.

Specific treatment

Oligospermia

- Improvement of general health
- Husband should be advised not to wear tight under pants.
- Cold baths for scrotal area
- Treatment of infection
- Correction of Varicocele
- Testosterone should not be prescribed. It cause suppression of spermatogenesis
- Use of gonadotrophins hormone only used in hypothalamic pituitary failure
- Tab. Clomiphene 50 mg per day for 3 months.

Azospermia In case of atrophy of the tests, the response to treatment is poor adoption of patient or artificial insemination and those cases due to block in the vas the obstruction may be overcome surgically (vasoepiditymostomy).

Female

The treatment of the wife depends upon the causative factors. The line of the treatment as follows

- improvement in general health
- Induction of ovulation in those cases where the cause of infertility is the failure of ovulation.
- Treatment of any other cause

Improvement in general health

In our country health of women is generally poor. The following should restore it

1. Correction of dietary habits
2. Advise regarding hygiene
3. Correction of anemia
4. Reduction of obesity.
5. Treatment of any chronic infection or parasitic diseases.

Induction of ovulation

If the cause of infertility is only failure of ovulation the following treatment is advised

1. Clomiphence Citrate 50 mg one tablet daily for five days. The course should be started on the 3rd day of cycle if there is no response to the treatment and ovulation fails to occur during next month the course should be repeated for five days with double doses (100 mg).

2. Human gonadotrophin this treatment should be used in those centers where facility for close follow up in hormone assays is available.

- The computed age of gestation (AOG) is wrong, perhaps due to an error in the mother remembering her LMP.
- There is more than one baby.
- There is too much amniotic fluid, or
- It is a molar pregnancy.

If the fundal height is too small possible causes could include:

- The computed AOG is wrong, perhaps due to an error in the mother remembering her LMO.
- The baby is not growing well.

If the uterus is too large or too small, verify LMP and AOG. If you are worried, refer the woman to a doctor. Try to determine the fetal part that is occupying the fundus. The head is hard, round and moveable while the breech feels large, and immovable.

POSITION OF THE BABY:

Feel the sides of the abdomen; apply gentle pressure with the examining hand while the other hand is used to steady the uterus. Use your hands alternately.
If the baby lies in a longitudinal position, you will feel the back and extremities. The back feels smooth while the extremities feel irregular. If the baby is in transverse position, you will feel the head and breech occupying the sides of the uterus.

PRESENTATION AND ENGAGEDEMTNT:

Grasp the area immediately above the symphysis pubis between the thumb and fingers of your hand, and identify the presenting part. The head will feel hard and round, and will be movable if it is not engaged. The breech feels softer and irregular. Face the woman's feet. Place fingers on both sides of the lower abdomen and press downward and inward. These maneuver helps to identify the presenting part and find out if it is engaged.

If the head presents, one hand is stopped sooner than the other is by a rounded body, the cephalic prominence, while the other hand descends more deeply into the pelvis. When the cephalic prominence can no longer be palpated, the head has already engaged deeply at the level of the ischial spines. The normal fetal presentation is vertex, with the head towards the pelvis and flexed. Breech or transverse lie at or after 36 weeks gestation is likely to persist until the onset of labor. However, this is not predicative of lie and presentation at the onset of labor if seen before 36 weeks. If malpresentation seen at or later than 36 weeks gestation, recommend hospital delivery.

Fetal Heart beat

Listen to the fetal heartbeat with a stethoscope or fetoscope, it is easy to hear over the baby's back. The fetal heartbeat can be heard from the fifth month onwards. If you cannot hear the fetal heartbeat after the sixth month or 24

Sexually Transmitted Diseases (STDs) and Reproductive Tract Infections (RTIs) The Syndromic Approach

What are Sexually Transmitted Diseases (STDs)?

Sexually transmitted diseases (STDs) are infections passed from person to person by sexual contact. STDs are part of a broader group of infections known, as reproductive infections (RTIs) Some RTIs are not caused by sexual contact.

Common Reproductive Tract Infections (RTIs)	
Vaginal Infections	Sexually Transmitted Diseases (STDs)
Bacterial Vaginosis --BV * Trichomoniasis Candidiasis (yeast)*	Chancroid Chlamydia Gonorrhea Syphilis HIV/AIDS Herpes Simplex (HSV) Human Papilloma (HPV. genital warts) Hepatitis B (HBV)

* Usually not sexually transmitted

Untreated RTIs can make people more vulnerable to other diseases. For example, the presence of any infection, such as herpes or syphilis. That causes irritation or ulcers of the skin in and around the vagina or penis increases the possibility of infection with HIV, the virus that causes AIDS. Viruses can enter the body' through broken or damaged skin more easily than through healthy skin. In addition, studies have shown that the human Papilloma virus (HPV, sexually transmitted genital warts) is the "primary underlying cause" of cervical cancer. For a person's comfort and safety, all RTIs should be treated promptly.

Approaches to Diagnosis and Treatment

The three main approaches to diagnosing and treating STDs are etiological (with laboratory Support), clinical (without laboratory support) and Syndromic.

1- The etiological approach is based on the results of laboratory' tests. These tests identify the specific infectious agent, which determines the treatment to be administered. This approach is the most reliable but often not available because it depends on trained technicians and is often expensive. And needs specialized equipment. Additionally, it may require the client to return for a second visit in order to collect laboratory results and treatment.

2- When using a clinical approach without laboratory support,. a provider relies on his or her own experience to arrive at a diagnosis of a single STD. Although it is the least reliable of the three approaches the clinical approach is the most common in many places.

3-The syndromic approach is based on symptoms described by the patient and signs identified by the provider, which are classified as a syndrome. In contrast to clinical diagnosis without laboratory support, a provider using the syndromic approach would generally treat for all possible causes of a syndrome. Algorithms or "flow-charts" have been designed for each of the four major syndromes (see below) to help providers determine what treatment to prescribe. An important advantage of this approach over the etiological model (with laboratory support) is that the client gets diagnosis and treatment within a single visit. The disadvantages are that it does not help clients who are infected but have no symptoms. It risks over treatment and it relies on the availability of all necessary drugs for treatment.

A Note to the Reader

This self-instructional module focuses on the information that a provider would need in order to counsel clients how and why to *prevent* sexually transmitted diseases. However, even though they may not diagnose and treat STDs/RTIs in their daily work, all providers need basic information on common symptoms, signs, and treatment so that they may counsel and refer clients in an informed

fashion. For these reasons, we have included information on the Syndromic approach to STDs/RTIs.

Syndromic Approach

The Syndromic approach has four distinctive features

- The main STDs are classified by clinical syndromes (made up of patient's symptoms and signs identified by the provider during the examination).
- Health-care providers use algorithms, also called "flow-charts," to determine what treatment to provide.
- Providers may adapt flow-charts to local situations, based on prevalence of STDs drug supplies and other factors. This can help reduce over treatment. For example with the genital ulcer syndrome, if there are virtually no cases of Chancroid reported in the region, a provider might focus his/her treatment of this syndrome on syphilis.
- Patients are generally treated for all possible causes of the syndrome rather than just one cause. If a client has a genital ulcer, for example the Syndromic management algorithm guides the provider to treat for both syphilis and Chancroid. In contrast a clinical diagnosis without laboratory support would try to identify and treat a single disease.

The following are the most common STD syndromes found in men and women

1- ***Genital ulcer***
2- ***Vaginal Discharge***
3- ***Urethral Discharge***
4- ***Lower Abdominal Pain in Women***

Usefulness of the Syndromic Approach

The Syndromic approach can be useful for many groups of people who work in reproductive health. We have mentioned the advantages and disadvantages for the following groups

Clinical Staff Diagnosis and Treatment

The usefulness of the Syndromic approach depends on the particular syndrome. For instance, these approaches are useful for management of

genital ulcers in men and women, urethral discharge in men, and lower abdominal pain in women.

There are a number of problems with using the Syndromic approach for the management of vaginal discharge, which we will discuss below. However, the Syndromic approach may indeed be useful to resolve the presenting complaint of vaginal discharge in women coming to MCH/FP clinics.

The Syndromic approach cannot be used with patients who are as symptomatic that is, with those who have no symptoms because the approach is based on symptoms and signs. The Syndromic approach was not designed for, and is not effective in screening women for asymptotic gonorrhea or Chlamydia infection.

Counseling Trainers and Trainees

Trainers may find it useful to include some information on the Syndromic approach in their counseling training. Although counseling trainees may not actually examine and treat clients for STDs/RTIs; they need to know the basic symptoms and risks of these infections so that they can tell clients what to look for and refer them for services.

Syndromic Management of Major STDs

Table 1

Syndrome	Associated Symptoms	Associated Infections	Diagnostic Issues	Risk for Client	How a Client may Contract any of these STDs
Genital Ulcer (Men and Women)	Genital sores and ulcers, vesicular (blister – like) lesions, enlarged lymph nodes in groin area	• Syphilis • Chancroid • Herpes Simplex	Syndrome management very effective in diagnosing and treating these infections in men and women.	Untreated syphilis can cause mental illness, blindness in newborns, heart disease, and death. Some risks during pregnancy.	Through vaginal, anal, or oral sex with someone who has syphilis, Chancroid and /or herpes simplex
Urethral Discharge (Men)	Discharge form the penis, more frequent and painful urination	• Gonorrhea • Chlamydia	Studies have found this Syndromic management very effective in treating these infections in men.	Infertility	Through vaginal or anal sex with some one who has gonorrhea, and /or Chlamydia.
Vaginal Discharge (Women)	Abnormal vaginal Discharge, Vaginal itching, painful urination, pain during sexual intercourse.	• Vaginitis • Candidiasis (yeast) • Trichomoiniasis • Bacterial Vaginosis BV • Cervicitis • Gonorrhea • Chlamydia	Hard to distinguish between vaginitis and cervicitis using Syndromic approach, often Chlamydia is a symptomatic in women	Gonorrhea and Chlamydia can cause infertility, ectopic pregnancy, risks to fetus, and death all of these infections decrease quality of life.	Gonorrhea and Chlamydia can be spread through vaginal sex with someone who has any of these infections. Vaginitis is not usually sexually transmitted.
Lower Abdominal pain (Women)	Lower abdorminal pain , pain during sexual intercourse, with or without vaginal discharge	Pelvic inflammatory Disease (PID), cased by gonorrhea, Chlamydia or infection from anaerobic bacteria	Difficult to identity because women may be asymptotic or ignore their pain.	Infertility, ectopic pregnancy, death	Through vaginal sex with someone who has gonorrhea or Chlamydia.

IMPORTANT STD COUNSELING PRINCIPLES

- Counseling around sexual and reproductive health should always be provided in the context of discretion, confidentiality and respect.
- If discussion of sexual lives and practices occurs in counseling interactions with each and every client rather than just with "those clients who are considered high-risk ("sex workers", "partners of truck drivers", injecting drug users) then the discussion itself becomes less tense for both client and provider. By including the discussion of sexual and reproductive health as the starting point for all reproductive health encounters, you can "de-stigmatize" the issue.

Telling clients that you are having this discussion with all of the clients, rather than just with those who have traditionally been considered to be "at-risk," encourages them to open up.

- Sexually active women and men are not only interested in avoiding unwanted pregnancies, but also in protecting themselves from sexually transmitted diseases which may expose them to serious health risks and future infertility.
- Remember to reinforce in counseling that a STD is nothing to be ashamed of that it is an illness, which needs to be treated.

Important Points on STD Prevention to Cover in a Counseling Session

When counseling a client on how to prevent STDs, a provider should make certain to cover certain crucial points. The basic information only takes a few minutes to cover.

The most important messages are

- That STDs are transmitted through sex with an infected partner.

- That the use of male or female condoms is the best form of protection against getting or transmitting an STD.
- That these infections have potential serious complications, such as ectopic pregnancy and infertility, if not treated early and effectively.
- That the presence of other STDs can make transmission of HIV easier;
- That even-one has both disease prevention and family planning needs and therefore it is possible to use condoms to protect against STDs and another method to prevent pregnancy (dual method use); and
- That the IUD is not a good family planning choice, if the client believes she is at risk of STDs.

Important Points to Cover on STD Treatment and Referral in a Counseling Session The most important points to cover in a counseling session for a client being treated for an STD are known as the Four "Cs" of STD management. Counseling and Education, Compliance with treatment, Condom use and contacting partners for management.

Counseling and Education

See above list for "important messages" to cover in counseling. The provider should adapt these messages to the needs of a client being treated for a STD. Compliance with Treatment Providers should stress on a client the importance of completing treatment and taking the full course of medicine prescribed. If the client does not complete treatment, the infection will not be cured. Clients should abstain from sexual intercourse until their treatment is completed and the infection cured.

Condoms

If abstinence is not a realistic option for a client, providers should stress that condom use is necessary to prevent transmission to partner(s). The client should be encouraged to use condoms in the future. Providers should also explain other safer sexual behaviors, including reducing the number of sexual partners.

Contacting Partner

Contacting partners of an infected client is important because partners need to be treated. Treating partners prevents further spread of the infection and re infection of the client. All sex partners of an infected client should be notified of their exposure to disease and encouraged to seek diagnosis and treatment. If these partners have other partners, they should also be contacted if possible.

Helping clients to discuss and confront Their Own Risk

- It is important to work with all the clients to be able to realistically discuss their STD risk in all counseling settings (family planning, etc.). Some of the issues which should be taken into consideration in choosing a family planning method are:

  1. A woman who believes that she is at significant risk for STDs through her own behavior or that of her partner is not a good candidate for the IUD. She is at increased risk for upper genital tract infections and for pelvic inflammatory disease (PID). She should consider a FP method that protects against STDs.
  2. Clients who use permanent or long-term methods of contraception are less likely to use barrier method, thus increasing their risk of contracting STDs.

- Clients who are at risk should consider dual methods, i.e.. a long term or permanent form of contraception, along with a barrier method such as the male or female condom for STD protection.

- Condoms are the best protection against STDs. Although not as effective for pregnancy prevention as say the pill, if used correctly every time. Condoms are quite effective in preventing pregnancy. Clients who are at high risk for STDs might consider male or female condom, with the back up of emergency contraception in the case of contraceptive failure. Other methods such as the diaphragm and spermicide have been shown to provide some protection against STD transmission.

- It is especially important, that female clients who want to have children in the future are aware that untreated STDs can lead to infertility.
- Because so many STDs are a symptomatic in females, women need to know that just because they do not notice any symptoms does not mean that they are free of STDs. If a woman's partner has symptoms, she should make certain that he is tested or treated.

APPENDIX A
SYNDROMIC APPROACH, VAGINAL DISCHARGE

Introduction

Vaginal discharge is common and is often seen in family planning clinics. Women normally have some vaginal discharge, which may be more pronounced during certain phases of the menstrual cycle, during and after sexual activity, and during pregnancy and lactation. Normal vaginal discharge is variable but usually scant clear or white. In general, women only seek care for vaginal discharge if they perceive it as unusual or if it causes itching or discomfort, although they may not even seek care under these circumstances. Vaginal discharge may indicate an infection of the vagina, called vaginitis, or an infection of the cervix, called cervicitis. Sometimes both infections are present.

Vaginitis

Vaginitis is most 'commonly caused by bacterial Vaginosis (BV) and/or Candidiasis (also known as a yeast infection). BV and Candidiasis are not usually sexually transmitted. Vaginitis can also result from Trichomoniasis, a common STD. In general, vaginitis does not lead to serious complications.

Cervicitis

Gonorrhea or Chlamydia cause cervicitis, both bacterial STDs that can be treated. Cervicitis is less common than vaginitis and is more difficult to diagnose. Complications from cervicitis, such as pelvic inflammatory disease (PID), can be serious. If discharge is accompanied by lower abdominal pain, the provider should refer to the lower abdominal pain syndrome (see Appendix D) in order to rule out PID before treating for gonorrhea and Chlamydia.

weeks AOG, and there is not fetal movement, the baby may be dead. Refer the woman to a gynecologist.

Count the fetal heart rate. The normal rate is regular at 120-140 per minute. If the fetal heart rate is less than 120 or more than 140, the fetus is in stress.

EARLY PREGNANCY & SELF CARE

DO'S

PREGNANT WOMEN SHOULD

- Go for antenatal care as soon as they know they are pregnant and at least three or four times during pregnancy.
- Sleep 6-10 hours each night.
- Rest as much as possible; for example, lie down for one hour every day.
- Keep clean by washing frequently.
- Get regular exercise, for example by walking for half and hour every day.
- Wear loose, comfortable clothing and low-heeled shoes that support the feet.
- Continue to have sexual relations as long as they want unless there is bleeding from the vagina, contractions have started, or the bag of water has broken.
- Drink plenty of liquids and eat enough balanced food.

DO NOT'S

PREGNANT WOMEN SHOULD NOT

- Lift or carry heavy loads.
- Drinking alcohol can cause serious problems for the baby.
- Smoke cigarettes.
- Take medicines, drugs or herbs unless a doctor or nurse prescribe or advise the pregnant woman.
- Be expose to chemicals such as hair dyes, pesticides to kill insects, or herbicides to destroy weeds.

MINOR DISCOMFORTS DURGING PREGNANCY & THEIR MANAGEMENT.

There are a number of minor problems that a woman can have during pregnancy. Most of them can be taken care of within the home; none of them is life threatening. The most common problems and what to do about them are.

Morning Sickness: Eat smaller meals more frequently, instead of three big meals.

Using the vaginal discharge syndrome, gonorrhea and Chlamydia are difficult to diagnose because the signs and symptoms may not be sufficient to distinguish between vaginitis and cervicitis. Distinguishing between these two conditions is important, however, because cervicitis can lead to serious complications such as pelvic inflammatory disease (PID), which can in turn result in infertility, ectopic pregnancy or other serious complications.

Symptoms and Signs

In the vaginal discharge syndrome, symptoms that a client can experience are abnormal vaginal discharge, vaginal itching, painful urination and pain during sexual intercourse. The sign a provider should look for is the presence of abnormal vaginal discharge which may be yellow or green in color, bad smelling, and either frothy or clumpy in consistency. If the clients are experiencing both discharge and lower abdominal pain the provider should refer to the lower abdominal pain syndrome (see Appendix D).

	Normal Vagina	Candidiasis	Trichomonoiasis	Bacterial Vaginosis—BV (or nonspecific, yeast infection)	Cervicitis Gonorrhea or Chlamydia
Typical Symptoms	Baseline Vaginal discharge with normal odor, absence of pain, absence of lesions	Intense vulvar itching and/or irritation, painful urination, increased discharge	Profuse discharge, often-bad smelling, painful urination and genital irritation often present. Pain during sexual intercourse may be present.	Bad smelling especially after ejaculation of male, increased discharge (commonly present after man withdraws his penis)	Often asymptomatic increased vaginal discharge, abdominal pain (see appendix D)
Discharge					
Amount	Variable, usually scant.	Scant or moderate.	Profuse (in posterior fornix)	Moderate to profuse.	Moderate to profuse
Color	Clear or white	White	White, Yellow or Green.	White or Gray.	Yellow or green
Consistency	Fluffy, wooly	Clumped, "cheesy", oozing plaques	Homogenous	Homogenous, uniformly coating vaginal walls Occasionally frothy.	
Associated Inflammatory Signs	None	Satellite Lesions, Erosions of vagina or external genitalia; vulvar itching	Redness, irritation of vaginal mucus membrane; occasional vulvar itching	None	Ectopy, edema (swelling) in the area of ectopy, irritation of vaginal mucus membrane easily-induced bleeding
Basic management of sex partners	None	Examination and treatment usually are not necessary, but may be indicated in some cases of recurrent infection.	For regular sexual partners of source contact Routine SDT exam; treat with Metronidazole 200 mg in a single dose. 2. For casual sexual contacts Routine exam; individualize treatment depending on clinical history, exam and epidemiological information.	None	Both regular and casual sexual partners should be examined, and treated before the couple has sexual intercourse again.

Two problems that arise from using syndromic management for vaginal discharge are

1-Over-treatment; there are five possible causes of discharge, yet is unlikely that a woman would. have all five infections. Treating for all potential infections uses valuable and scarce resources and raises concerns about development of antibiotic resistance.

2-Most cases of vaginal discharge are likely to be due to non-sexually transmitted infections (BV and Candidiasis) but this cannot be known for certain when using Syndromic management. This fact raises concerns about having women send their partners for testing and treatment, when they may not even have a STD.

Management

If a client has symptoms of the vaginal discharge syndrome she should be treated for the above infections ((Table A-I). In addition, (table-A-I) the provider should.

1. Educate and counsel the client about STDs and relevant risks and complications;
2. Encourage the client to abstain from sexual intercourse until the infection is cured.
3. Promote and provide condoms for use in the furture.
4. Recommend that the client's partner(s) be examined for possible infection:
5. Refer the client to appropriate services if treatment is not available at the site; and
6. Advise the client to return for re-evaluation if symptoms persist.

Table A-2

Problem	Treatment
Candidiasis	• Miconozole or Clotrimazole 200 mg inserted in vagina once daily for 3 days. Or • Clotrimazole 500 mg inserted in vagina as a single dose.
Trichomoniasis and Bacterial Vaginosis	• Metronidazole 400-500 mg 2 times daily for 7 days. Or • Metronidazole 2 g by mouth as a single dose.

Note: for treatment of chlamydia and gonorrhea refer to Table C.I.

APPENDIX B

Syndromic Approach Genital Ulcer Syndrome

Introduction

Syndromic management is very effective for diagnosis and treatment of the genital ulcer syndrome. The most common causes are syphilis, Chancroid, and genital herpes.

Symptoms and Signs

With this syndrome, the main symptoms a client would notice are genital sores and ulcers. The major signs a provider will see upon examination are genital ulcers, blister-like lesions, and at times enlarged lymph nodes in the groin area. Single ulcers and sores are most commonly associated with syphilis and Chancroid, while vesicular lesions or multiple genital ulcers are associated with herpes, which is frequently recurrent.

	Syphilis (Primary)	Syphilis (Secondary)	Chancroid	Herpes Simplex Virus (HSV)
Typical Symptoms	Nontender, eroded pimple with clean base and raised, firm, hardened borders; occasional multiple lesions	Mucous patches, wart like growths, may be highly variable, symmetrical skin rashes (mostly nonirritant)	Single, round to oval, deep ulcer with irregular outlines, ragged and undermined borders and a base with pus, lesions are tender	Primary (initial lesions are multiple, blisters or painful erosions with yellow-whiter membranes coating, recurrent episodes may have grouped blisters which may be itchy.
Site of symptoms	Genital, Extragenital, Perianal, or rectal	Rashes on palms of hands, soles of feet, patches in mouth	Genital or perianal	Genital, perianal, or oral
Risks for infected client	Increased risk of HIV transmission, mental illness, blindness, heart disease, and death	Mental illness, heart disease, and death.	Mutilation lesions	Incurable mother can transmit to child during childbirth. HSV sepsis and death

Management

Depending on the results of the examination, the provider should treat the client for syphilis and Chancroid, or herpes (table-B-I). In addition, the provider should

1. Educate and counsel the client about STDs and relevant risks and complications
2. Encourage the client to abstain from sexual intercourse until the infection is cured
3. Promote and provide condoms for use in the future.
4. Recommend that client's partner(s) be notified and examined for possible infection.
5. Refer the client to appropriate services if treatment is not available at the site and
6. Advise the client to return for re-evaluation if symptoms persist.

Table B-1

Disease	Management
Syphilis	• Benzathine Penicillin G. 2.4 million U in 2 intramuscular injections • For men and Non pregnant women allergic to Penicillin. Doxycycline 100 mg by mouth 2 times daily for 15 days. • For Pregnant women allergic to penicillin. Erythromycin 500 mg by mouth 4 times daily for 15 days.
Chancroid	• Erythromycin 500 mg by mouth 3 times daily for 7 days. • Alternate Treatments • Ciprofloxacin • Cefriaxone
Herpes Simplex	• Apply topical antibiotic ointments. Advise patients to wash genital area regularly with soap and water. • Acyclovir 200 mg by mouth 5 times daily for 7 days.

APPENDIX C

Syndromic Approach Urethral Discharge

Introduction

The urethral discharge syndrome is important for providers who treat men. Gonorrhea and Chlamydia cause this syndrome. Studies have found Syndromic management to be very effective in diagnosing and treating urethral discharge in men.

Symptoms and Signs

The most common symptoms that a man experiences in this syndrome are discharge from his penis and painful urination.

The provider should examine the client in order to confirm that he has a discharge and to see if any other signs of STDs are present, such as genital ulcers. If the provider does not see any discharge on the external genitalia, including the inner surface of the foreskin and areas normally covered by the foreskin, the provider can ask the client to try to squeeze discharge from the penis (this process is sometimes called "milking"). Providers should note that gonorrhea and Chlamydia are sometimes asymptomatic in men.

Sign/ Symptoms	Chlamydia	Gonorrhea
Urethral Dicharge	Clear mucoid discharge	Cloudy, pus-like discharge
Other symptoms	Burning with urination Swollen, tender testicles	Burning with urination Swollen, tender testicles.
Risks for infected client	Can affect the testicles and cause sterility	Can affect the epididymis, a structure where sperm are stored. The resulting condition can lead to infertility.

Management

If the client does have symptoms of urethral discharge syndrome, he should be treated for gonorrhea and Chlamydia (Table-C-I). In addition, the provider should

1- Educate and counsel the client about STDs and relevant risks and complications;
2- Encourage the client to abstain from sexual intercourse until the infection is cured
3- Promote and provide condoms for use in the future
4- Recommend that client's partner(s) be notified and examined for possible infection.
5- Refer the client to appropriate services if treatment is not available at the site.
6- Advise the client to return for re-evaluation if symptoms persist.

Table C-1

Gonorrhea	• Cefixime 400 mg by mouth as a single dose. • Cefriaxone 250 mg 1/m as a single dose. • Ciprofloxacin 500 mg by mouth as a single dose.
Chlamydia	• Doxycycline 100 mg by mouth 2 times daily for 7 days. Alternate Treatment • Erythromycin 500 mg by mouth 4 times daily for 7 days.

APPENDIX D

Syndromic Approach Lower Abdominal Pain

Introduction

Another important syndrome for family planning and primary care providers is lower abdominal pain. Lower abdominal pain can be serious because it is often associated with pelvic inflammatory disease (PID) which is a major cause of infertility and ectopic pregnancy, and can cause death. PID is primarily caused by gonorrhea. Chlamydia, and infection from anaerobic bacteria when these infections ascend from the cervix into the upper genital tract.

Definitions of PID vary. The World Health Organization defines PID as an inflammation of a woman's upper genital tract, including endometritis (inflammation of the inner uterine lining), salpingitis (inflammation of the oviducts), tubo-ovarian abscess and pelvic peritonitis.

Symptoms and Signs

The symptoms a woman may feel are lower abdominal pain, pain during sexual intercourse and some vaginal discharge. The main signs a provider may see are lower abdominal tenderness on palpation, vaginal discharge and an elevated body temperature that is, higher than 38 C.

However, the lower abdominal pain syndrome can be difficult to identify because women may have no symptoms or they might think their pain is relatively normal and does not require medical care. Not identifying this syndrome can have serious consequences.

Symptoms (a client experiences) Note clients may be asymptomatic	Lower abdominal pain, pain during sexual Intercourse, with or without vaginal discharge.
Signs (a provider sees during exam)	Lower abdominal tenderness on palpation,.vaginal discharge, elevated body temperature (higher than 38 C)
Risks for Infected Client	infertility, ectopic pregnancy, death

Management

If the client does have symptoms of lower abdominal pain syndrome, she should be treated for gonorrhea, Chlamydia, and anaerobic bacterial infection (Table-D-I). In addition. The provider should

1. Educate and counsel the client about STDs and relevant risks and complications;
2. Encourage the client to abstain from sexual intercourse until the infection is cured
3. Promote and provide condoms for use in the future
4. Recommend that her partner(s) be examined for possible infection.
5. Refer the client to appropriate services if treatment is not available at the site; and
6. Advise the client to return for re-evaluation if the symptoms persist.

Clients who have had PID are at increased risk for future recurrences of the disease

TableD-1

- Single dose Treatment Gonorrhea.
- Cefixime 400 mg by mouth
- Ceftriaxone 250 mg 1/m.

PLUS

- Treatment for Chlamydia.

Doxycycline 100 mg by mouth 2 times daily for 7 days.

PLUS

- Treatment for anaerobic infections.

Metronidazole 400-500 mg by mouth 2 times daily for 10 days.

Clients who have had PID are at increased risk for future recurrences of the disease

Heartburn:	Avoid spicy food and eat frequent small meals. Do not lie down immediately after eating.
Constipation:	Drink plenty waters, eat vegetables and fruits.
Varicose Veins:	Prop up feet when sitting, avoids standing for long period of time.
Hemorrhoid:	Avoid sitting for long periods, eat fruits and vegetables.
Vaginal Discharge:	If it is green or yellow and has an unpleasant smell, seek treatment at a clinic.
Backache:	Keep back straight when sitting and standing.
Leg Cramps:	Stretch the muscle out slowly by straightening the leg and pointing the toe back.
Swelling in ankle & feet:	Avoid tight clothing, shoes, and jewelry. If the swelling is sudden seek clinical advice.
Shortness of Breath:	If prolonged, refer to a health facility.
Abdominal pain:	Drink fluids to prevent the pain, sit or lie down when the pain strikes. If it is prolonged, refer to a clinic.
Urinary Discomfort:	Drink lots of water and urinate often. If there is pain go to a health facility.

COMMON MEDICAL PROBLEM DURING PREGNANCY:

Any kind of illness may be dangerous for the mother and may get worse by being pregnant. Diseases and certain treatments during pregnancy, may cause fetal malformation or growth retardation. Pregnant women should not take drugs or medications unless there are very strong indications and only on the advice of a health worker. If you are unsure of the condition of the pregnant woman, refer her to a doctor.

Common medical problems in pregnancy are listed:

Anemia. Anemia is very common and may worsen in pregnancy because the fetus takes his nutritional requirements of proteins, iron and folic acid from the mother. If the mother does not eat enough proper food, she will become

Human Immunodeficiency Virus (HIV) Infection and Acquired Immunodeficiency Syndrome (AIDS)

Introduction

Infection with the human Immunodeficiency virus (HIV) is associated with a progressive disease process. The clinical spectrum ranges from asymptotic infection to acquired Immunodeficiency syndrome (AIDS). Many persons with HIV infection are unaware that they are infected. Although many will remain asymptomatic for 10 or more years, all will probably develop some symptoms related to this infection.

Transmission

Mechanisms of transmission

HIV is transmitted through

- Sexual contacts both heterosexual and homosexual through unprotected vaginal or anal intercourse. Transmission through oral sex has been reported to occur; the risk has been difficult to quantify, but is much lower than that for vaginal or anal intercourse.
- Blood and other body fluids IV drug use with shared injection equipment; transfusion of infected blood or blood products; contact with broken skin, or through injuries with contaminated needles and/or sharp instruments; splashes of contaminated blood or body fluids on mucous membranes
- Prenatal modes passed from mother to infant - during pregnancy, delivery or breast feeding

There is no evidence of transmission through other modes, such as

- During casual social contact
- Through living in the same house or working together
- Through shared eating utensils
- From insects
- From donating blood
- From consumption of food or drink

Although tears, saliva, and urine may contain HIV, the amount of virus in these fluids is quite low, and no infections have been documented due to these fluids. Blood, semen, and cervical/vaginal secretions are the only documented body fluids through which HIV is transmitted.

Misconceptions about transmission of HIV can influence how health care workers provide services to clients. Misconceptions may lead to

- Denial of services to HIV-infected clients
- Inappropriate segregation/isolation of infected clients (e.g. separate wards for HIV-infected maternity patients) or separate facilities for infected vs. uninfected clients (e.g. "dirty" and "clean" operating rooms).
- Health care workers being unnecessarily afraid of or worried about providing services to HIV-infected clients
- Providers and other staff not taking appropriate steps to protect themselves

Factors affecting the risk of transmission

Increased susceptibility to HIV

- Unprotected vaginal or anal intercourse (i.e. sex without condom use)
- Sharing of unsterilized drug injection equipment
- High-risk or multiple sex partners (if practicing safer sex, this risk decreases)
- Genital ulcers
- Other STDs
- Cervical Ectopy
- Presence of foreskin
- Sex during menses

Increased infectiousness of HIV-infected individuals

- Acute primary infection
- Advanced clinical disease
- Elevated plasma viral levels

- Genital ulcers
- Other STDs
- Cervical Ectopy

Impact of STDs on HIV Transmission
Both ulcerative (e.g. syphilis, genital herpes, Cancroids) and non-ulcerative (gonorrhea, chlamydia, trichomonas). STDs are associated with an increased risk of sexual transmission of HIV. The increased risk for HIV transmission is approximately 9-fold for ulcerative STDs and 3-to 5-fold for non-ulcerative STDs.

This effect is seen in two directions

- Someone with an STD is more likely to acquire HIV from unprotected sexual contact with an HIV-infected individual
- An HIV infected person who also has another STD is more likely to transmit HIV infection to his/her sexual partner.

Potential mechanisms include the following

- STDs lead to increased lymphocytes and macrophages in the genital tract - the cells most susceptible to HIV infection in uninfected individuals or the ones that harbor the virus in an infected individual
- Some STDs lead to breaks in the lining of the genital tract ;) or in the skin of the genitals, leading to an easy path for entrance or exit of HIV (e.g. Syphilis)
- Impaired immunity in HIV infected individuals may lead to more severe clinical manifestations of STDs or a greater degree of shedding of the STD microorganisms (e.g. genital herpes infection)
- environment of the vagina may be altered by STDs (decreased normal flora such as *Lactobacillus* or increase in the normally acidic pH) leading to a more favorable environment for HIV transmission

TREATING STDs CAN REDUCE HIV TRANSMISSION

Diagnosis

Diagnosis of HIV infection is made by detection of antibodies to HIV on the same serum specimen by an enzyme immunoassay (EIA or ELISA) and confirmation by a Western blot test. The Western blot, which is also an antibody test, is used for confirmation of HIV infection rather than screening because it is expensive, labor intensive and requires subjective interpretation. Detectable antibody usually develops within 3 months after infection, but takes longer in some people. Although a negative antibody test usually means that a person is not infected, antibody tests cannot rule out infection from a recent exposure. If infection is strongly suspected and test results are negative, the test should be repeated at 3 and 6 months.

This time between when infection occurs and when antibody levels are high enough to be detected so that the HIV test will be positive is known as the "window period". During this period, the HIV test will be negative, even though the person is actually infected with HIV. Thus, it is possible for someone to test negative, but still be infected with HIV. This is an important concept to keep in mind if exposure may have been recent - within the past 6 months. The window period is different from one person to the next, and varies from approximately 2 to 6 months. Fifty percent of clients have positive test results within 2 months of infection, and greater than 95% by 6 months.

Compatible signs or symptoms of HIV infection or AIDS along with sexual exposure in the past year to a person with diagnosed HIV infection or with risk factors for HIV infection are suggestive of HIV infection.

Clinical conditions suggestive of HIV infection include

- Acute retroviral syndrome non-specific flu-like symptoms such as fever, myalgia, sore throat, headache, and rash
- Constitutional signs and symptoms persistent generalized lymphadenopathy, unexplained fever, and night sweats unexplained weight loss, persistent diarrhea
- Dermatological disorders refractory seborrheic dermatitis, persistent/recurrent molluscum contagiosum, atypical,

extensive or serve herpes zoster, herpes simplex and condylomata

- Mucocutaneous diseases oral Candidiasis, oral hairy leukoplakia, recurrent or ulcerative herpes simplex, chronic recurrent vaginal Candidiasis
- Abnormal lab findings anemia, leukopenia or lymphopenia of unknown etiology; isolated thrombocytopenia
- Opportunistic infections (suggest advanced HIV disease)

Standard Precautions and Pre-Procedure Screening of Clients

Standard precautions are a set of clinical practice recommendations designed to help minimize the risk of exposure to infectious materials by both clients and staff. They are called *standard* precautions because they are practices which should be standard, that is followed all of the time, with every client, regardless of his or her presumed infection status. This is crucial as it is not always possible to tell who is infected with HIV (and other blood borne pathogens such as hepatitis B or C virus), and often people themselves do not know if they are infected (see description of window period above). It is safer to act as if every client is infected, rather than to apply standard precautions to some persons and not others.

Standard precautions include

- washing your hands
- wearing gloves
- wearing protective barriers such as eye protection, face shields and gowns
- Correctly processing instruments and client care equipment
- Maintaining correct environmental cleanliness and waste-disposal practices
- Handling, transporting and processing used/soiled linens correctly
- Preventing injuries with sharps (hypodermic needles, scalpels, suture needles, etc)instuments.

Screening of clients for blood borne infections caused by pathogens such as HIV or hepatitis B virus before clinical service (e.g. surgery) provide leads to a false sense of security and is not recommended for several reasons

- Tests results may be negative, although the client is infected (see discussion of "Window period" above.
- Screening is not possible in emergency situations. If standard precautions are not routine, staff may be unsure of what to do and needed supplies may not be available
- Screening is expensive and money could be better spent elsewhere (e.g. instituting hepatitis B vaccination program for staff).

HIV Counseling

HIV counseling is an essential tool for risk assessment, client education and HIV prevention.

Counseling must always accompany HIV testing.

HIV risk assessment:

Risk assessment is important for determining which clients should be offered HIV testing. It is also important so the physician can provide effective counseling for risk reduction and behavior modification. The risk assessment should gather information on.

- Sexual history (sexually active, practices and partners, and history of STDs)
- Drug use (especially injecting drug use)
- History of blood transfusion or receipt of other blood products
- Potential occupational risk
- General health information (tuberculosis or symptoms which may be suggestive of HIV infection).

Pretest counseling

Pretest counseling which includes risk reduction and prevention education should be given prior to the HIV test so that clients understand what the test is about, and are more likely to comprehend the counseling than when they are receiving the results, have the opportunity to reduce their risk immediately, and are more likely to return for their test results. Pretest counseling should include information on

- The HIV test (what it is, what it measures, etc.)
- The course of HIV infection and AIDS
- Risk reduction and prevention
- Appropriate resources for the client (social, psychological or medical).

Post test counseling

HIV test results should always be given in person so that posttest counseling can be provided, psychological assessment can be done and confidentiality ensured. The test result should be given without delay in a clear, straightforward and sensitive manner. Posttest counseling will depend on whether the test result is negative or positive.

If the result is negative, the counseling should emphasize

- That the client does not have evidence of infection at this time, but that if potential exposure to HIV has been recent it is possible that the client could still be infected
- The need for repeat testing, if applicable
- Risk reduction and prevention information, targeted to the clients risk behaviors
- Appropriate resources for the client (social, psychological or medical).

Clients receiving positive test results may exhibit any number of responses and they may need a little time and a sympathetic ear to vent or discuss their feelings. If the result is positive, the counseling should emphasize

- The course of the disease, including the fact that the client may remain healthy for years
- Risk reduction so that the client can avoid other infections and prevent transmission to others
- The importance of sharing the test results with sexual or drug-injecting partners and encouraging them to have an HIV test
- Appropriate resources for the client (social, psychological or medical).

Indeterminate results do occur on occasion - that is the results of the Western blot are not definitely positive or negative. Indeterminate results may represent early infection where antibody levels are low and may be the case in clients who report engaging in high-risk behaviors. Repeat testing in a few weeks or months will be positive if this is the case. In most cases, especially in clients without reported risk factors, indeterminate results do not often represent early infection. These clients should have a repeat test within a few months. If the result does not become positive in 6 months, the client is considered uninfected.

HIV infection during Pregnancy

About 15%-40% of infants born to HIV-infected women are infected with HIV. Many of the mothers are asymptotic. Evidence indicates that HIV transmission occurs during gestation, delivery and the postpartum period (via breast-feeding). The relative proportion of transmission at each of these three times remains unclear. Current data indicate that at least 40%, and perhaps as much as 80% of transmission occurs during or very close to the time of birth.

Factors that increase the risk of prenatal HIV transmission include

- Advanced stage of HIV infection/AIDS.
- Low CD4 cell counts.
- High maternal viral load.
- Drug use during pregnancy.
- STDs during pregnancy.
- Prolonged rupture of membranes (estimated at greater than 4-6 hours)

Results of a 1994 study demonstrated that treatment with zidovudine (ZDV, also known as AZT) of the mother during pregnancy and labor, and of the newborn for 6 weeks reduces the risk of HIV transmission by nearly 70%.

Transmission around the time of and during delivery is thought to occur because of exposure of the fetus to genital tract secretions and blood. Questions have arisen regarding the effect of the route of delivery on HIV transmission. Study results regarding the effect of cesarean section on HIV transmission have been conflicting; with some studies showing a protective effect and others showing none.

Obstetric management to lower the risk of HIV transmission at the time of delivery should focus on minimizing direct and prolonged contact of the fetus with the maternal lower genital tract. During labor, interventions such as artificial rupture of membranes or the placement of internal monitoring devices should be reserved for situations in which the benefits of the procedure far outweigh

the potential for increased HIV transmission. Currently, there in no rationale for including any method of vaginal cleansing during childbirth in HIV-infected women.

Because of the conflicting data regarding the effect of the route of delivery on HIV transmission, cesarean section should be reserved for the usual obstetric indications. Multiple investigators have reported that with increasing duration of ruptured membranes beyond 4-6 hours, there is an increasing risk of HIV transmission. If delivery within a short time period of membrane rupture seems likely, vaginal delivery should be allowed to proceed. Efforts at aggressive labor management in women with ruptured membranes seem to be warranted. If a long duration of ruptured membranes appears likely, the maternal risks of cesarean section to prevent prolonged rupture of membranes needs to be carefully weighed against the increasing likelihood of HIV transmission.

A woman who is infected with HIV can pass the infection on to her infant during breast-feeding. The exact risk of transmission during breast-feeding is unknown, but studies show that as many as 1/3 of infected infants may acquire the infection via this route. When infants born to women with HIV can be ensured uninterrupted access to nutritionally adequate breast-milk substitutes that are safely prepared and fed to them, they are at less risk of illness and death if they are not breast-fed. However, in some situations the risk of HIV infection may be low compared to the risk of other infection or diarrhea that a baby is exposed to if it is not breast-fed. In an environment where infectious diseases and malnutrition are the primary causes of infant death, artificial feeding substantially increases infant's risk of illness and death.

All women of childbearing age should be made aware of the risk of transmitting infections during pregnancy. HIV infected women should be informed of their contraceptive choices and provided information about contraceptive services should they desire to avoid pregnancy.

anemic. Anemia is very dangerous in pregnancy because, all women bleed when the placenta is delivered, and the condition of the mother will be more dangerous if she is anemic. Pregnant women with severe anemia can develop heart failure.

What to do

If the women look pale.

1. Give her 180-mg of elemental iron in 5 mg of folic acid daily for the entire duration of pregnancy and for six weeks after giving birth dosage is reduced to twice a day if there is no more pallor.
2. Antihelminthic (mebendazole) drugs may be given to women exposed to hookworm infestation but not in the first three months of pregnancy.
3. Advise the mother to increase her intake of food rich in iron, folic acid, Vitamin C and protein.
4. Advise the mother to avoid drinking tea and coffee, especially before meals because they limit absorption of iron in the body.
5. Refer women, who get tired very easily, have difficulty of breathing or those who do not improve within two weeks of iron supplementation to a doctor.
6. Ask the women to see you again after one month.
7. Give iron folate tablets to all pregnant women.

Fever

What to do

1. Advise rest and increased fluid intake.
2. Give paracetamol 500 mg, SOS.
3. Look for other signs/symptoms such as cough, pain and frequent urination associated with fever and treat as appropriate.

Diarrhea

What to do

Advise the woman to take a lot of fluids such as oral rehydration solution (ORS) boiled water, soup or fruit juices. Advise her to continue eating her usual diet, check her condition the following day, and if she does not get better refer her to a physician. Do not give anti diarrhea medication.

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